Souhegan River Nomination

To the New Hampshire Rivers Management and Protection Program

Prepared by the Souhegan Watershed Association And the Nashua Regional Planning Commission

May 1999

New Hampshire Rivers Management and Protection Program

River Nomination Form

Instructions: Before beginning any work on a river nomination, Sponsors should contact the State Rivers Coordinator at the NH Department of Environmental Services (DES). The Rivers Coordinator can provide initial guidance by identifying local and regional contacts and other sources of information and can give advice throughout the preparation of a river nomination. Refer to the publication, "A Guide to River Nominations," for a step-by-step explanation of the nomination process and a directory of federal, state, regional, and private sources of information and technical assistance. The River Coordinator's address and telephone number are: DES Rivers Coordinator, P.O. Box 95, 6 Hazen Drive, Concord, NH 03302-0095, (603) 271-1152.

NOMINATION INFORMATION

Name of River: Souhegan River

River/River Segment Location (and start/end points) and Length (miles): Confluence of the west and south branches of the Souhegan River to the confluence with the Merrimack River in Merrimack, approximately 31 miles.

3. (a) Sponsoring Organization or Individual: Souhegan Watershed Association

(b) Contact Person: George May, Chairman, Souhegan Watershed Association

(c) Address: Souhegan Watershed Association, 468 Route 13, Milford, NH 03055

(d) Daytime Telephone Number: <u>SWA - 673-2409</u>, George May - 883-3409

II. SUMMARY: RESOURCES OF STATEWIDE OR LOCAL SIGNIFICANCE

Explanation: In order to be eligible for designation to the NH Rivers Management and Protection Program, a river must contain or represent either a significant statewide or local example of a natural, managed, cultural, or recreational resource.

Instructions:

By checking the appropriate boxes below, indicate the resource values that you believe are present in the nominated river and its corridor and whether you believe these values are present at a level of significance that is statewide or local. If the value is not present, leave the box blank.

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2. Briefly describe the most important resource values which are present in the nominated river and why you believe these values are significant from either a statewide or local perspective. For example, if the river contains a segment of whitewater that attracts kayakers from throughout the state and is identified in a regional boaters' guide as a premier whitewater boating segment, you should identify recreational boating as a significant statewide resource and include one or two sentences in support of this statement. In addition, if you feel that a resource value is threatened, explain why.

Formed by the convergence of the South Brand and the West Branch Souhegan Rivers in New Ipswich, the Souhegan flows approximately 31 miles through the communities of New Ipswich, Greenville, Wilton, Milford, Amherst and Merrimack before joining the Merrimack River. The Souhegan River is one of the most significant surface water resources in the Nashua region. Throughout history the River has served man by providing transportation and food, by powering early mills, by supplying water for irrigation and drinking and by carrying away wastes. The River continues to serve man, however, there is a greater appreciation for its natural, historic and cultural resources. The following information highlights the significant resources of the Souhegan River corridor.

The historic mills, dams and bridges within the comidor are a constant reminder of the historic use of the river for industrial uses. Fortunately for the corridor communities, some of the once vacant mill buildings have found new life as office and studio space, new industrial businesses and elderly housing. Many of the dams on the River have been converted to hydropower. The historic resources of the corridor have local and state significance.

The geologic resources of the corridor provide many of the communities with their only source of public water supplies. The stratified drift aquifers that follow the river corridor provide a source of high quality/high quantity drinking water used for public supplies by the Towns of Merrimack, Milford and Wilton. The aquifer also supplies water for a successful spring water company in Wilton. This groundwater resource is very significant locally. Other significant geologic resources include scenic areas, particularly the gorge in Greenville, the Horseshoe in Wilton and Wildcat Falls in Merrimack.

The importance of the Souhegan to the Atlantic salmon restoration program is recognized at the local, state and federal levels. As the best salmon nursery habitat in the region, the River is key to the success of the program. The River has recently become an important educational tool as part of the Adopt —a-Salmon-Family program sponsored by the US Fish and Wildlife Service.

The Souhegan River is recognized regionally and in New England for its whitewater kayaking and canoeing. The River is identified as good, intermediate whitewater by both the Appalachian Mountain Club's *River Guide* and the *New England Whitewater River Guide*. The rapids in the Greenville/Wilton stretch are classified as Class II, III and IV whitewater. In addition, the Souhegan corridor is a significant local recreational resource for swimming, hiking and nature study.

The quality-of-life aspect of the Souhegan River is an important local resource. All of the communities along the River are reacquainting themselves with the important role the River plays in their community. This is resulting in a renewed interest in water quality, public access, trail development and historic resources as well as an increased focus on the scenic qualities of the corridor.

These represent a brief discussion of the most important resource values in the Souhegan corridor. Additional information on these and other resources is included in the individual section of this nomination and in the Souhegan River Corridor Management Plan and the Souhegan River Watershed Study that have been submitted as supporting documents. The Souhegan is a particularly important local resource in an area that is again being threatened by the fast pace of development in southern New Hampshire. With the renewed interest in the Souhegan River demonstrated by all of the corridor communities, the time is now and the local support is present to support the recognition of the Souhegan River as a significant local and state resource.

III. COMMUNITY AND PUBLIC SUPPORT

Explanation: The level of community and other public support which is demonstrated for a river nomination will be an important factor in determining whether that river will be recommended for legislative designation. Such support may be shown by the adoption of a town resolution, a letter from selectmen, master plan excerpts, or documented support from other groups, either public or private (if private, explain the group's purpose and who is represented).

<u>Instructions</u>: Describe the type of community and other public support which exists for the river nomination and attach appropriate documentation. Include copies of any letters of support from local elected and appointed officials.

The nomination of the Souhegan River to become part of the NH Rivers Management and Protection Program is supported by the Souhegan Watershed Association, local governments, boards and commissions, and regional, state and federal agencies and organizations, as demonstrated by the attached letters of support. Prior to submission of the nomination, the SWA held three public meetings to discuss the nomination in Merrimack, Milford and New Ipswich. Despite notice/coverage by the local press there was light attendance at the meetings. Given the demands of people's time, light attendance is often indicative of lack of opposition to a proposed action.

In addition, each of the Town Master Plans recognizes the importance of the Souhegan River to the community, historically and in the future. All of the communities are beginning to refocus on the River as a key element to the local and regional quality of life. Amherst is pursuing conservation and recreation lands in the corridor and has recently developed a new public access near Route 122. Merrimack is making the Souhegan a key component in its movement to create a Town center. Milford continues to focus on the River as a recreational resource for downtown residents through trail construction, as part of its Main Street program and for future acquisition of recreation and conservation land. Wilton's participation in the Main Street Program has increased awareness of the River to the downtown and efforts are underway to increase access, both visual and physical. to the River. Land along the Souhegan and its tributaries has recently been donated to the New Ipswich Conservation Commission and residents have been working to improve the scenic quality of the corridor through the demolition of some structures. In addition, the communities have also been working collaboratively on the development of a continuous trail along the River that would highlight significant natural, historic and cultural corridor resources and features. The SWA also brings people directly to the River through a series of canoe trips offered primarily during the spring when the water is high.

All of the communities also actively participated in the development of the Souhegan River Watershed Study. Representatives from each community participated on the advisory committee while others provided additional review to the document. The Study was well received by all of the local boards when presented to each community individually and many are actively working to implement the Study recommendations.

IV. OTHER SUPPORTING INFORMATION

Explanation: In addition to the information provided on this nomination form, Sponsors are encouraged to submit any other information which they believe will support the nomination of the river. This information may include a visual presentation (for example, a slide program or a map showing the location of significant resources) or studies and reports on the river.

<u>Instructions</u>: List what, if any, additional supporting information has been submitted with this river nomination.

Souhegan River Watershed Study, Nashua Regional Planning Commission, September, 1995 Souhegan River Comidor Study, Nashua Regional Planning Commission, July 1994 Souhegan and Merrimack River Water Monitoring Project, 1998 Report

RIVER CLASSIFICATIONS

Explanation: Each river or river segment that is designated by the state legislature will be placed into a river classification system. This classification system consists of four categories; Natural, Rural, Rural-Community and Community Rivers. Refer to Appendices A and B in the Guide to River Nominations, for a complete description and explanation of the river classification system and the instream protection measures which have been adopted by the state legislature for each classification. In this part of the nomination form, DES and the State Rivers Management Advisory Committee are interested in learning which river classification(s) you believe is most appropriate for your river.

Instructions:

For each classification criteria listed below (a-d), check the one box which most accurately

	describes the nominated river or segment.
(a)	General Description
0	The river or segment is free-flowing and characterized by high quality natural and scenic resources. The river shoreline is in primarily natural vegetation and the river corridor is generally undeveloped and development, if any, is limited to forest management and scattered housing. (Natural Rivers)
0	The river or segment is adjacent to lands which are partially or predominantly used for agriculture, forest management, and dispersed or clustered residential development. Some instream structures may exist, including low dams, diversion works and other minor modifications. (Rural Rivers)
D	The river or segment flows through developed or populated areas of the state and possesses existing or potential community resource values such as those defined in official municipal plans or land use controls. Such a river has mixed land uses in the corridor reflecting some combination of open space, agricultural, residential, commercial and industrial land uses. It is readily accessible by road or railroad and may include impoundments or diversions. (Rural-Community Rivers)
Ø	The river or segment flows through populated areas of the state and possesses actual or potential resource values, with some residential or other building development near the shoreline. The river or river segment is readily accessible by road or railroad, and may include some impoundments or diversions. (Community Rivers)
(b)	Length
	The river or segment is at least 5 miles long. (Natural Rivers)
	The river or segment is at least 3 miles long. (Rural and Rural-Community Rivers)
Ø	The river or segment is at least 1 mile long. (Community Rivers)
(c)	Water Quality
	The actual water quality of the river or segment meet Class A standards under the state's water quality standards. (Natural Rivers)
all	The actual water quality of the river or segment meets Class B standards under the state's

water quality standards. (Rural, Rural-Community and Community Rivers)

(d) Distance to Roads

- The minimum distance from the river shoreline to a paved road open to the public for motor vehicle use is at least 250 feet, except where a vegetative or other natural barrier exists which effectively screens the sight and sound of motor vehicles for a majority of the length of the river. (Natural Rivers)
- There is no minimum distance from the river shoreline to an existing road. Roads may parallel the river shoreline with regular bridge crossings and public access sites. (Rural, Rural-Community and Community Rivers)
- 2. Based on the boxes checked above, and your knowledge of the river or segment, identify those segments of the river which you believe should be classified as either a Natural, Rural, Rural-Community, or Community River. Be sure to include the start and end point of each segment and the length of the segment in miles (for example: Natural River: headwaters, Z miles, to the Town of ABC town line; Rural River: Town of ABC town line, Y miles, to the state border). Although a river or segment may be given more than one classification, the number of differently classified segments should be kept to a minimum. If your recommendation is incompatible with any of the above-listed criteria for a particular river classification, and you believe the classification is nevertheless appropriate and justified, explain why.

The Souhegan Watershed Association recommends that the Souhegan River be classified as a Community River.

VI. MAPS

A map of the river must be appended to this resource assessment. This map should be taken from a U.S. Geological Survey quadrangle (scale 1:24,000) or equivalent in accuracy and detail. GIS maps produced to show river-related resources can serve this purpose. Include an inset or locator map showing the location of the river or segment within the state.

VII. RESOURCE ASSESSMENT

1. Natural Resources

(a) Geologic Resources

Briefly describe the significant geologic resources of the river and its corridor, including any unique or visually interesting features such as waterfalls, unusual rock formations, and areas of rapids. If you are unable to include such features, then simply describe the bedrock geology map. Consider geologic resources on the basis of natural history, visual, and economic interest. Indicate if the state geologist or a national or state resource assessment has identified these geologic resources as significant at a national, regional (New England), state, or local level.

During the glacial period, glacial Lake Merrimack extended up the Souhegan River to Milford center leaving behind fine sands and silts that underlie the floodplains of the river. Additionally, streams flowing from melting glaciers deposited sediments in layers of similar sized grains. These stratified drift deposits are often excellent sources of groundwater. The 1987 USGS study, *Hydrogeology of Stratified Drift Aquifers and Water Quality in the Nashua Regional Planning Commission Area, South Central New Hampshire*, identified the Souhegan aquifer as one of the potentially most productive sources of high quality groundwater in the region. Three of the corridor communities rely on this aquifer for their existing and future water supplies.

The River flows through a gorge in Greenville with steep sides. The land on which the gorge is located was donated to the NH Fish and Game Department for preservation purposes. The Horseshoe in Wilton is another geologically significant area that serves as the local swimming hole.

(b) Wildlife Resources

(1) List the species of mammals and birds commonly found in the river and river corridor.

Mammals and birds found in the Souhegan River corridor are those commonly found in southern New Hampshire. These include raccoons, skunks, muskrats, beavers, porcupines, white tail deer, woodchucks, squirrels, mice, bats, rabbits and other indigenous species adapted to living near humans. The more rural areas of the watershed may also provide habitat for larger animals that require extensive habitat areas, or species hat require solitude such as moose, black bear and lynx. Depending on the season, the River corridor is host to a wide diversity of bird species. Gulls, doves, woodpeckers, chickadees and jays would be found throughout the year while other species such as warblers, sparrows, wrens, swallows, robins and several species of raptors are only seasonal residents. Other species including a variety of ducks, geese and herons nest in the area or migrate through the corridor.

(2) List any endangered or threatened animals which are supported by the river and river corridor environment. Include location, if known. Check whether these animals are endangered [E] or threatened [T] species and if they are significant at a national [N] or state [S] level.

Animal Species	<u>Location</u>	<u>E</u> or <u>T</u>	<u>N</u> or <u>S</u>
Eastern Hognose Snake		т	S3
Woodhouse's Toad		E	S1

Based on an agreement with the NH Natural Heritage Inventory, we do not disclose the location of threatened and endangered species in written materials.

(3) List significant wildlife habitat which is supported by the river or to which the river is integral, for game and non-game wildlife populations. Identify if the habitat has been determined to be exceptionally diverse, very diverse, or moderately diverse by the NH Fish and Game Department or the U.S. Fish and Wildlife Service.

Significant Habitat

Diversity Rating

(4) Determine if the river corridor is important for the movement of wildlife between large habitat areas. If it is, explain why.

The western reaches of the river corridor are very undeveloped and provide access between a number of large public and semi-public protected resource areas. In addition, the River corridor serves as a travel corridor in the developed areas of the region between the protected open spaces.

(c) Vegetation/Natural Communities

(1) List the plant species commonly found in the river and river corridor.

Typical plant species in the river corridor include those commonly found in southern New Hampshire and include white pine, hemlock, red maple, red oak, sycamore and numerous species of grasses and shrubs.

(2) List any endangered or threatened plant species that are supported by the river and river corridor environment. Include location, if known. Check whether these plants are endangered [E] or threatened [T] species and if they are significant at a national [N] or state [S] level.

Plant Species	Location	E or <u>T</u>	<u>N</u> or <u>S</u>
Long's Bitter Cress		E	S1
Wild Lupine		Ē	S1
Bird's Foot Violet		Ē	S2
Siberian Chives		Ē	S2
Wild Garlic		-	SH
Skydrop Aster		E	S2
Goat's Rue		Ē	S1
Stiff Tick Trefoil		_	SH
Giant Rhododendron		E	S2

(3) List any vegetative communities supported by the river and the river corridor environment which have been identified as "exemplary natural ecological communities" by the New Hampshire Natural Heritage Inventory. Include location, if known.

Exemplary Natural Ecological Community	Location	<u>Rank</u>
Southern New England High-energy Riverbank Community Southern New England Floodplain Forest		S? S2

(d) Fish Resources

(1) List the fish species commonly found in the river.

Native species of fish in the Souhegan River include small mouth bass, sunfish, pumpkinseeds, yellow perch, suckers and dace. In addition, the River is stocked annually by the NH Department of Fish and Game with brown trout, rainbow trout and brook trout.

(2) List any endangered or threatened fish species which inhabit the river. Check whether these fish are endangered [E] or threatened [T] species and if they are significant at a national [N] or state [S] level.

Fish Species	<u>Location</u>	E or T	N or S
Banded Sunfish		Е	S2

(3) Describe the presence and location of spawning beds, feeding areas, and other significant aquatic habitat for fish populations. Determine if the habitat is exceptionally diverse, very diverse or moderately diverse as determined by the NH Fish and Game Department or the U.S. Fish and Wildlife Service.

Atlantic salmon nursery habitat Diversity Rating identified by US Fish and Wildlife Service as the best Atlantic salmon nursery habitat in the region

(a) Mater Quality

(4) Indicate whether the significant fisheries found in the river rely on natural reproduction or a stocking program. If fish populations rely on a stocking program, indicate whether they are partly or wholly dependent on the program.

The brook, brown and rainbow trout in the Souhegan River rely almost entirely on a stocking program. Over 5,000 rainbow, brown and brook trout are stocked in the Souhegan River annually. When released, the trout are of a legal size for angling, representing what is called a "put and take" program.

(5) Is the river a viable anadromous fish resource? If yes, identify any on-going or planned restoration programs.

The Souhegan River is an important part of the Merrimack River anadromous fish restoration program and is considered one of the most productive rivers in the watershed. The upper reaches of the Souhegan and its tributaries provide the appropriate habitat - gravelly, sloping bottoms, water temperatures, oxygen levels and food sources – for excellent growth and survival of Atlantic salmon frye. On average, 100,000 Atlantic salmon frye are stocked in the Souhegan River annually. The dams on the River are equipped with downstream passage only at this point since natural reproduction is not expected. The Merrimack River Basin Fish Passage Action Plan for Anadromous Fish, January 1988, calls for the construction of upstream passage at the Merrimack Village dam when a specific number of shad pass through the Amoskeag dam. All other upstream passage is deferred.

In addition, the River is integral to the extremely successful US Fish and Wildlife Services Adopta-Salmon-Family Project that uses a watershed approach for environmental education. Classes are given Atlantic salmon to raise during the year which are then released into the Souhegan River in the spring. At present, the Souhegan River is the main release site for the program that currently involves approximately 25 schools in Massachusetts and New Hampshire.

(c) <u>vvale</u>	Quanty	
(1) Checl	k the state's water quality classification which a	pplies to this river or segment under state law.
	Class A	☑ Class B
(2) Accor state's wa	ding to readily available information, what is that ater quality standards?	e actual water quality of this river under the
	Class A	☑ Class B

(3) If the river is not currently supporting its water quality classification, identify the existing major causes of deficient water quality (e.g., industrial or sewage pollutants, agricultural fertilizer run-off) and possible corrective measures (e.g., regulations, enforcement, local and use controls).

At present, the Souhegan River supports its water quality classification, Class B, at all locations. The Souhegan Watershed Association's volunteer water quality monitoring program currently monitors 17 sites on the Souhegan for dissolved oxygen and bacteria. Due to the heavy rainfall in June, the 1998 sampling season was able to document high levels of bacteria during wet weather. Bacteria counts below Wilton and at the 122 bridge in Amherst exceeded the acceptable standard for swimming throughout the year. This is of concern since the Amherst site is a popular swimming area. Results from this program indicate problems with dissolved oxygen at the Pine Valley Mill site in Milford. Wet weather sampling by DES also documented dissolved oxygen problems in this area The low dissolved oxygen levels are due in part to the presence of two dams in the downtown Wilton area.

Phosphorous samples were collected on the Souhegan River during the 1998 sampling season. Samples collected at the impact sites for both the Greenville and Milford wastewater treatment facilities exceeded the 0.05 mg/l level of concern limit throughout the season except in times of high water volume in June. Phosphorous levels continued to rise downstream of the Milford indicating other sources of phosphorous contribution, possibly the two golf courses and residential development in this stretch of the corridor.

(f) Natural Flow Characteristics

Briefly describe the natural flow characteristics of the river, including natural periodic variation in flow (e.g., spring run-off and summer flow amounts) and frequency and duration of flood events. If applicable, describe purpose of and flow variations caused by impoundments, significant diversions, or channel alterations, including interbasin transfers. Indicate which segments of the river are free flowing.

Souhegan River flow data is only collected at one location, just above Wildcat Falls in Merrimack. The station operated as a full station until 1976 when it was converted to a partial station which is used only during periods of extreme weather, to estimate flooding conditions or drought severity. The monthly average flows for the Souhegan River as reported in the USGS publication *Statistical Analysis of Stream Gauging Date*, 1981, are presented in the table below. Flows range from a high of 818cfs in April to a low of 39 cfs in September. The 7Q10 flow, the lowest seven day sustained flow which occurs once in ten years, for the Souhegan River is 12.8 cfs. Flows in the Souhegan have been modified over the years by the construction of 12 flood control structures throughout the watershed to minimize flood damage. The flood control system is managed by the NH Department of Environmental Services.

AVERAGE MONTHLY FLOWS SOUHEGAN RIVER AT MERRIMACK, NH 1967-1976

Month	Mean Flow (cfs)
October	45
November	202
December	274
January	218
February	284
March	553
April	818
May	392
June	219
July	110
August	60
September	39

(g) Open Space

Briefly describe, give the location and identify the type (e.g., floodplain, forested, etc.) and type of ownership (i.e., public or private) of significant areas of open space in the river corridor. Describe and include the location of any protected land parcels within the river corridor (e.g., state parks and forests, national forest lands, municipal parks and conservation easements).

Despite the rapid pace of development in southern NH, large areas of undeveloped land exist along the Souhegan River in each community, particularly in the western sections of the corridor. The Land Use Maps in both the corridor and watershed studies identify they types of land use along the River and the locations of publicly and privately protected open spaces. The major parcels of protected land are identified by community in the following discussion.

Merrimack: Three sites along the River are owned by the Town, the Eighty Acres site – predominantly forested includes Wildcat Falls; the Turkey Hill Bridge site – open and forested, provides car top access to the River; Davidson Avenue green space - predominantly forested. In addition, the Whippoorwill Boy Scout Camp is located on the River.

Amherst: There are three areas of protected land owned by a municipality along the River, the Scott and Sherburne site – predominantly floodplain; the Currier Land – predominantly floodplain; and the Curtis Well site – public drinking water supply owned by the Town of Milford mixed woods and fields.

Milford: Milford conservation lands include an unnamed piece east of downtown – floodplain, forest, field; the site east of the swinging bridge – open area and woods; Emerson Park – small developed park; the Keyes Memorial Park – floodplain, open recreation area; and an unnamed parcel adjacent to the fish hatchery. The NH Department of Fish and Game operates a fish hatchery on a large parcel of land along the river – mixed fields and forest.

Wilton: The Town Forest on the Souhegan River is the only substantial piece of Town owned land in the river corridor. The Society for the Protection of NH Forests owns a parcel along the River – forested. The NH DOT owns a 3.2 mile scenic easement on Route 31 in Wilton and Greenville along the Souhegan River.

Greenville: The NH Department of Fish and Game owns a large parcel that is predominantly forested and includes the gorge.

New Ipswich: There are a couple of small pieces of land owned by the Town along the River that are predominantly forested.

2. Managed Resources

(a) Impoundments

List all of the dams which are present in the river, including any dams which are breached or in ruins. Identify their location, ownership, and purpose (i.e., flood control, low flow augmentation, or storage). Also indicate whether minimum flow requirements exist at any of the impoundments, if known. Include any proposals for new or reconstructed dams; indicate that this is a proposed dam by placing an asterisk (*) next to the name of the dam. Do not include existing or proposed dams which are used for hydroelectric energy production. These will be listed separately in the managed resources category.

Name of Dam	Location	<u>Ownership</u>	Purpose	Minimum Flow Reg.?
Souhegan River	New Ipswich	Warwick Mills		
Souhegan River III	New Ipswich	Otis Company	(inactive)	
Souhegan River	Greenville	Greenville Elderly Housing	` ,	
Souhegan River IV	Greenville	Oil Recovery Systems	(inactive)	
Souhegan River VI	Greenville	PSNH	(inactive)	
Souhegan River	Wilton	Gould Leech Trust	•	
Souhegan River III	Wilton	Label Arts		
Souhegan River	Wilton	Label Arts		
Goldman Dam	Milford	Town		
McLane Dam	Milford	Town		
Souhegan River	Merrimack	Pennichuck Water Works		

(b) Water Withdrawals and Discharges

(1) List any significant water withdrawals from the river, including withdrawals for public drinking water, industry, and agriculture. Identify the purpose (e.g., irrigation) and location of the withdrawal. Indicate if the river has been identified in a state, regional, or local study as a potential source of water supply and, if so, identify the study.

Pennichuck Water Works historically withdrew water for public supply from 1965-1984 and maintains the right to with draw water in the future. In addition to those listed below, there are five hydropower withdrawals registered with NHDES that are indicated in the hydropower section.

<u>Withdrawal</u>	Purpose	<u>Location</u>	Potential Source? (ID Study)
Amherst Country Club	irrigation	Amherst	
Souhegan Woods Golf Club	irrigation	Amherst	

(2) List all known surface water and potential discharges to the river and identify the source, type (e.g., industrial wastewater) and location of the discharge. Indicate whether the discharge has been permitted by the state (yes or no).

Point Source Discharge	<u>Type</u>	<u>Location</u>	Permit?
Greenville WWTF	wastewater	Greenville	ves
Souhegan Wood Products	non-contact cooling waters	Wilton	yes
Hitchner Manufacturing	non-contact cooling waters	Milford	yes
Milford WWTF	wastewater	Milford	yes
Harcros Chemicals	non-contact cooling waters	Merrimack	ves

(c) Hydroelectric Resources

List all known existing or potential (as cited in the NH River Protection and Energy Development Project -- Final Report; New England Rivers Center, 1983) sites of hydroelectric power production. Record the owner, location and whether the site is regulated or exempt from regulation by the Federal Energy Regulatory Commission (FERC).

Hydroelectric Facility	<u>Owner</u>	Location	regulated or exempt?
Waterloom Pond Dam	Alden Greenwood	New Ipswich	regulated
Otis Dam	Alden Greenwood	Greenville	regulated
Souhegan River III	Chamberlin Falls Hydro	Greenville	regulated
Pine Valley Mill	Winslow MacDonald	Wilton	regulated

3. Cultural Resources

(a) Historical and Archaeological Resources

Describe any significant historical or archaeological resources or sites with significant potential for such resources (as determined by the state historic preservation officer) found in the river or river corridor. Identify whether the resource is listed or is eligible to be listed as a National Historic Landmark (NHL) or on the National Register of Historic Places (NRHP) or is a recognized Historic District (HD) or Multiple Use Area (MUA). If known, indicate whether these resources are significant at a national, regional (New England), state, or local level. Below this listing, note any local town histories, oral histories, or general historical knowledge about the use of the river and its corridor.

The Souhegan River Corridor Management Plan, NRPC, 1993, contains an excellent Historic Resources chapter including an historic overview of the Souhegan corridor along with a discussion of the significant historic and archaeological resources. Rather than list all of the information here, the chapter is appended to the nomination form. Individual resources that are listed on the National Register or that have been determined to be eligible for the National Register are identified as such. All other resources discussed in the chapter are identified as potentially eligible for listing on the National Register. In addition, a list of local histories and other sources of historical information is included at the end of the chapter.

(b) Community Resource

Briefly describe how the river is recognized or used as a significant community resource. If the river's importance is recognized in any official town documents, such as a master plan, include reference to such documents.

The Souhegan River has played an important part in the development of the region. From Native American settlements to current day industrial, recreational, historic and cultural uses. Each of the communities within the river corridor recognizes the importance of the River to the quality of life in each community. The River is discussed in each of the municipal master plans and is recognized as a significant community resource in the most recent. Wilton and Milford are currently updating their Master Plans and include references to the Souhegan River relative to its importance to their respective downtown's as well as the recreational opportunities it provides for swimming, canoeing and kayaking, fishing and hiking.

It is important to note that the Souhegan River Watershed Study was produced after the adoption of all of the Town's adopted Master Plans. This Study contains a significant amount of information about the River and makes specific recommendations for local and regional actions. All of the communities in the watershed appointed representatives to participate in the development of the Study. In addition, the Study was well received by all of the communities in the watershed and many are beginning to implement the recommendations of the Study and to include references to the Study in their local Master Plans. The recommendations of the Study included such things as

amendments to local Zoning Ordinances and land use regulations, the development of a continuous trail along the River, additional public access sites in each community, public education on River resources and their protection, continuation of the volunteer monitoring program and state actions.

4. Recreational Resources

(a) Fishery

Identify the type and location of any high quality recreational fisheries or areas with such potential which are present in the river (as determined by the NH Fish and Game Department). Also indicate areas that have potential to be significant fisheries.

As discussed earlier, the majority of the fishing in the River is for stocked trout.

(b) Boating

Describe any significant recreational boating opportunities which are present on the river, including whether it is used for motorized boating. Indicate if the river is cited as significant for recreational boating in a publication of a national, regional or statewide recreation organization. Refer to the NH River Protection and Energy Development Project to determine the river's significance as a recreational boating river. Also note if boaters are attracted from beyond the local area and if there are areas with potential to be significant boating resources.

The western sections of the Souhegan River from Greenville to Wilton provide whitewater canoeing and kayaking during the spring and other periods of high water. Both the Appalachian Mountain Club's (AMC) River Guide and the New England Whitewater River Guide identify these sections of the River as good intermediate whitewater. The AMC guide classifies the rapids in this section as Class II, III and IV. This stretch of the River is very popular with canoers and kayakers because it provides good training runs, the water is clean, the area is easily accessed and the ice melts early in the spring. The Boston and New Hampshire AMC's and the Merrimack Valley Paddlers organize numerous trips on the Souhegan River every year.

The stretch of the River between Wilton and Milford provides limited opportunities for canoeing and kayaking because the water is generally very low and portages are required around the dams. Below the Route 122 bridge in Amherst, the River is flat and provides excellent opportunities for family canoeing. The water is shallow with a sandy bottom and there are numerous spots to picnic and wade. Below the Seavems Bridge in Merrimack, the River quickens as it flows through a series of ledges called Indian Ledges. Passage for canoes and kayaks at this point is again limited to periods of high water. The stretch of River below Seavems Bridge is impassable to watercraft because of Wildcat Falls.

The Souhegan Watershed Association sponsors annual trips on all of the accessible sections of the River. The River is impassable to motor boats except in he western reaches on the impoundments.

c) Other Recreational Opportunities

List any other recreational areas, facilities, or opportunities or potential for such on the river or in the river corridor (e.g., hiking, camping, picnicking, etc.). Indicate ownership, if known.

In addition to the recreation areas listed below, numerous groups and the SWA have discussed a trail along the entire length of the Souhegan River.

Recreational Area	<u>Ownership</u>	<u>Location</u>
Taft Land – hiking, nature study Town Forest – hiking, nature study SPNHF Land – hiking, nature study Souhegan River Scenic Easement – picnicking, river access The Horseshoe – swimming, picnicking Milford Fish Hatchery – hiking, nature study, picnicking Town Land – hiking, nature study, picnicking Keyes Field – field sports, water access, tennis Emerson Park – walking, picnicking, summer concerts Kaley Park – river access, recreational fields Amherst canoe port – river access, swimming Route 122 Access – river access Sherburne Site – hiking, nature study Eighty Acres – hiking, picnicking Turkey Hill Bridge Site – hiking, river access	NH Fish & Game Town of Wilton SPNHF NHDOT private NH Fish & Game Town of Milford Town of Milford Town of Milford Town of Amherst Town of Amherst Town of Amherst Town of Merrimack Town of Merrimack	· · · · · · · · · · · · · · · · · · ·
	TOWN OF WICHINIACK	Merrimack

(d) Public Access

List any existing public access sites located along the river. These may be formal or non-formal access points. Include the type of public access (e.g., canoe only), related facilities (e.g., parking), and if known, ownership at each site.

<u>Location</u>	Type of Access	Related Facilities	<u>Ownership</u>
Taft Land, Greenville Captain Clark Bridge, Wilton Green Bridge, Milford Keyes Field, Milford Kaley Park, Milford Route 122 Bridge, Amherst Amherst Canoe Port Turkey Hill Bridge, Merrimack Seaverns Bridge, Merrimack	canoe	limited parking limited parking parking on-street parking, rec. fields parking limited parking limited parking parking limited parking limited parking	NH Fish & Game NH DOT Milford Milford Amherst CC Amherst Merrimack Merrimack

5. Other Resources

(a) Scenic Resources

Briefly describe any significant scenic focal points along the river including designated viewing areas and scenic vistas and overlooks. Indicate the location of the significant views to and from the river.

Numerous scenic views exist along the Souhegan River many of which involve rapids and riffles. Moving west to east, Route 31 travels along scenic Water Loom Pond and under the High Bridge in the center of Town. In Greenville, the River flows through a series of dams through the center of the Town. Again, many scenic views and vistas are easily viewed from Route 31 and include pastures and agricultural land, the remaining stone abutments of a railroad bridge and a scenic

gorge that is permanently protected through a donation of land by the Taft family. Through a 3.2 section along Route 31 in Greenville and Wilton, the corridor is protected by a scenic easement donated to the NH DOT. This section of the corridor is particularly scenic which is enhanced by its proximity to the road corridor. The Horseshoe in Wilton is an area where the River passes through a series of ledges that are steep on one side. A local swimming hole, many Wilton residents learned to swim here. In addition, the River winds its way through downtown Wilton passing under an old railroad bridge behind the buildings lining Main Street. Having recently been admitted into the National Main Street Program. Wilton's focus on the River as an element of the downtown's character is being recognized and built upon. As the River enters Milford along 101, it passes through a series of riffles that are popular with fly fisherman and under the historic Green Bridge. The Souhegan River Trail follows the river along the state owned fish hatchery property and the adjacent Town owned property. Through downtown Milford, the River can be viewed from a number of locations most notably the Swinging Bridge which is located just above a dam providing views of the impoundment and the downstream sections of the River. The majority of the views of the River in Amherst are at bridge crossings as the road network is not as close to the River as it is in other sections of the corridor. A similar situation exists in Merrimack since public access to the River is limited to a few places. Of note in Merrimack are Indian Ledges and Wildcat Falls. The Currier land also known as Eighty Acres permanently protects Wildcat Falls in public ownership. A dam and another series of falls near the mouth of the River in Merrimack provide scenic views from Route 3. The connections between the River and the transportation network, and hence the public's access to the River corridor, provides many of the scenic views. A description of the historic bridges and dams in the corridor can be found in the Historic Resources chapter that is attached to this application.

(b) Land Use

Briefly describe the general patterns of current land use in the river comidor. Include location of significant developments within the river comidor including agricultural, residential, commercial, and industrial developments, and solid waste management facilities. Also include location of lands used for forest management or which are undeveloped. Identify such features as roads along the river, railroads, bridges, and utility crossings. Describe the type and location of any proposals for major developments within the river corridor.

Land use within the River corridor varies significantly from community to community. Much of the land is undeveloped, particularly in the western communities. This is due in part to the physical constraints of the land, i.e. floodplains, steep slopes, proximity of the road, etc. While the Souhegan River Corridor Management Plan and the Souhegan River Watershed Study, were completed in 1994 and 1995 respectively, land use patterns within the corridor have not changed significantly. Generalized land use for the watershed is depicted on the attached Land Use Map.

Merrimack

East of Daniel Webster Highway, the study corridor is highly developed for industrial and commercial uses. West of D.W. Highway development is predominantly residential with some areas of public ownership, including the Town owned 80 Acres in the area of Wildcat Falls. The Town owns another parcel along the River accessible from Davidson Avenue and the Boy Scouts own a parcel across the River, Camp Whippoorwill. Land use in the far western section of the river corridor is very low density residential and vacant.

Amherst

Much of the land in Amherst's section of the corridor is vacant and undeveloped. This is somewhat misleading since there are three golf courses in the western section of the study corridor. The dominance of the vacant land use category can also be related to the large expanses of floodplain within the corridor in Amherst. The rest of the study corridor is residential and the Town owns one piece of conservation land with River frontage.

Milford

Milford exhibits the greatest diversity in land use within the study corridor, with high density residential, residential, commercial, industrial, institutional and public lands, and vacant land categories represented. The eastern portion of the study corridor, near the Amherst line, is predominantly commercial with a small shopping center and a few restaurants and shops. The Milford Wastewater Treatment plant and Riverside Cemetery are located near the River. Approaching the Milford downtown land uses is mostly residential and multi-family. The Milford downtown is a mixture of commercial and residential/multi-family land use with some small parcels of Town owned land, east of the swinging bridge north of the River, Emerson Park, Elm Street Cemetery and Keyes Field. The next section of the corridor is dominated by commercial development south of the River and residential and vacant land north of the River. The State owns a significant area of land, the Milford fish hatchery, along the Souhegan River near its confluence with Purgatory Brook. The land across the River is used for agriculture, and the development rights to one parcel have been purchased by the State. The western section of the corridor is lightly developed with commercial and residential uses. There are two hazardous waste sites in the corridor in Milford, the Savage Well site and the Fletcher Paint site.

Wilton

In Wilton, the eastern portion of the study corridor is dominated by residential and commercial/industrial uses, including Souhegan Wood Products, Label Art, the Riverview-Mill and the downtown businesses. West of the downtown along Route 101 the principal land use is residential with a few commercial businesses along 101. Along NH Route 31 south the corridor is sparsely developed with only a few residences and the River is close to the road. The NH Department of Transportation holds a scenic easement along a stretch of Route 31 in Wilton and Greenville.

Greenville

Land use within the study corridor in Greenville is predominantly vacant land in the northern section and residential in the village areas.

New Ipswich

Land use within the study corridor in New Ipswich is chiefly vacant and residential

(c) Land Use Controls

Identify the municipalities with existing master plans and zoning ordinances within the river corridor. Identify existing or significant proposed land use controls which affect the river and the river corridor (e.g., zoning, easements, subdivision regulations).

According to the Office of State Planning 1997 report, Status of Municipal Planning and Land Use Regulations in New Hampshire, all of the communities in the Souhegan corridor have an adopted Master Plan, a Zoning Ordinance and Subdivision/Site Plan Review Regulations. The following discussion on zoning and land use regulations by community is taken from the 1994Souhegan River Corridor Management Plan. No significant changes to the Zoning Ordinances or the Subdivision/Site Plan Regulations that would have an impact on the River have occurred since the study was completed. Zoning for the watershed is depicted on the Zoning Map for the watershed.

MERRIMACK

The majority of the study corridor in Merrimack, all of the land west of the Everett Tumpike, is zoned for residential development. Zoning east of the tumpike is commercial and industrial. The uses permitted within each district include:

General or Limited Commercial: limited commercial permits stores for the sale of retail goods or services; business and professional offices; specifically excludes banks, automotive uses of all kinds, hotels and motels; permitted by special exception restaurants, cafes, residential and accessory uses; general commercial permits stores for the sale of retail goods and services; business, professional and banking offices; research and development; restaurants and cafes; parking lots for transient motor vehicles; hotels and motels; and churches; permitted by special exception - accessory uses, residential, public facilities, sale or storage of new or used cars, commercial recreation and entertainment, and gasoline and automobile service stations.

Industrial: manufacturing industries; warehouse and wholesale uses; offices greater than 10,000 sq. ft.; public utilities; churches; gas stations; enclosed service and repair; sales service and repair of machinery and transportation equipment; freight and trucking terminals, offices and brokers; contractor yards; parking garages; animal hospitals and veterinary clinics; research—and testing laboratories; fuel storage and distribution (bulk); printing establishments; contract cleaning establishments; industrial supply establishments; support uses to industrial district - restaurants, branch banks, offices, hotel/motel; and breweries and bottling facilities.

Residential: residential uses; home occupations; permitted by special exception churches and accessory dwelling units.

Minimum lot size in the commercial districts is 20,000 sq. ft. There is no minimum lot size for industrial developments; however, floor area ratios cannot exceed 0.4 for a one story building or 0.8 for a two-story building and buildings must be set back a minimum of 100 feet from D.W. Highway. In addition, all developments in this district must be served by municipal water and sewer. Minimum lot size in the commercial districts is 20,000 sq. ft. with 125 feet of frontage. Floor area ratios are the same as the industrial district. Minimum lot size requirements in the residential district are based on soil type and the presence of municipal water and sewer. Cluster development of one, two or four unit residential structures is allowed in all residential districts with a minimum parcel size of 15 acres and municipal water and sewer. In addition, the Town has adopted a number of regulations to protect its natural resources, such as the floodplain conservation district, the wetland conservation district and the aquifer conservation district. The Town does not have any type of shoreline protection.

AMHERST

The entire study corridor in Amherst is zoned for residential development. Uses permitted in the residential district include: single-family and accessory buildings; planned residential development; home occupations; open space plan; amateur, nonprofit sports and recreation uses; and family daycare uses. Minimum lot size is two acres with 200 ft. of frontage for regular lots and 35 ft. of frontage for reduced frontage lots. The open space plan calls for maintaining the overall density, two acres/unit, but allows for the development of residential units on 40,000 sq. ft. lots to encourage the maintenance of open space. Minimum parcel size for open space plans is ten acres in the residential district. The planned residential development standards allow for the development of different housing types at densities greater than required by the underlying zone. Density is determined by dividing the overall acreage by two and then multiplying that number by a factor which is based on the soil classification. Single-family attached and detached structures, and multi-unit structures with three to six units are permitted in planned residential developments. Minimum tract size for a planned residential development is 20 acres in the residential district. In addition, the Town has adopted a number of regulations to protect its natural resources such as a floodplain conservation district, a wetland conservation district and an aquifer protection district. The watershed protection district essentially is the same as a shoreline protection district.

MILFORD

Land within the Milford section of the study corridor is almost equally divided between commercial, industrial and residential districts. South of the River, the eastern section is zoned commercial and the western section is zoned industrial. Except for a small area near the

downtown, all of the land in the corridor north of the River is zoned residential. The uses permitted within each district include:

Commercial: retail and wholesale businesses; restaurants; filling stations, garages and parking lots; professional offices and banks; hospitals and/or medical facilities; schools, colleges, business or trade schools; hotels, motels and inns; churches; theaters and bowling establishments; laundries and dry cleaning; newspaper and job printing; funeral homes; the uses permitted in residence "A" and "B" districts; and elderly housing; permitted by special exception - dumps and junk yards, mobile homes and communication towers.

Industrial: harvesting and processing of natural resources; and light industrial and manufacturing; permitted by special exception - uses permitted in the commercial/business district and residence "R" district except for residential uses.

Integrated Commercial-Industrial: wholesale businesses; retail businesses; restaurants; professional offices and banks; hotels, motels and inns; daycare facilities; public utility uses; light industrial and manufacturing; distribution and mailing facilities; research and development laboratories; automotive service and repair; harvesting of natural resources; permitted by special exception - schools.

Residential District: "A" district: single-family residences and accessory buildings; permitted by special exception home occupations, recreation and community center buildings, kindergartens and day nurseries, churches, and public utilities; "B" district: multi-family with municipal water and sewer; single-family and two-family dwellings; permitted by special exception - hospitals, schools and funeral homes; "R" district: uses permitted in "A" district; hospitals; schools; farm, agriculture or nursery; mobile homes; harvesting of natural resources; and recreational uses; permitted by special exception two-family residences and communication towers.

Minimum lot sizes in the commercial and industrial districts are 20,000 sq. ft./150 ft. of frontage with municipal water and sewer and 60,000 sq. ft./225 ft. frontage without water and sewer. Lot sizes and frontages in the integrated commercial-industrial district are the same as those for the commercial/industrial with water and sewer and 40,000 sq. ft./150 ft. of frontage without water and sewer. Residential minimum lot sizes are as follows: "A" - with water and sewer 15,000 sq. ft./100 ft. frontage, without 40,000 sq. ft./150 ft. frontage; "B" - with water and sewer 20,000 sq. ft./150 ft. frontage, without 60,000 sq. ft./225 ft. frontage; "R" - single-family 40,000 sq. ft./150 ft. frontage; two-family 80,000 sq. ft./225 ft. frontage. Cluster development is permitted in all residential districts with a minimum tract size of 5 acres with water and sewer or 20 acres without. Overall density is the same as would be permitted by the underlying zone and there are no minimum lot size, frontage or setback requirements. In addition, the Town has adopted a number of regulations to protect its natural resources such as a floodplain management district, a wetland protection district and an aquifer protection district. The wetland protection district includes surface waters.

WILTON

Residential and agricultural, and residential zoning dominates the Wilton section of the study corridor with a strip of commercially zoned land along NH Route 101 and some industrially zoned land along NH Routes 101 and 31 South. The uses permitted within each district include:

Residential: single-family and duplex dwellings and accessory uses; multi-family dwellings with 3 units; permitted by special exception - home occupations, bed and breakfasts, churches, synagogues, parish houses and convents, hospitals, emergency medical centers and clinics, civic and municipal buildings, schools and daycare centers.

Residential and agricultural: any use permitted in the residential district; and all general farming and forestry activities.

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Commercial: any use permitted in the residential and agricultural district; duplex and multifamily dwellings, inns, tourist courts, cabins, and bed and breakfasts; restaurants and other retail establishments; garages, parking lots and filling stations; business and professional offices; theaters, halls, clubs and amusement centers; greenhouses and florist shops; funeral homes; and wholesale establishments in connection with permitted retail establishments, warehousing or merchandise for sale within the district.

Industrial: Manufacturing, compounding, processing, packing, treatment or warehousing of goods and products; research and/or testing laboratories; and offices; and commercial uses under the same terms and conditions as industrial uses.

Minimum lot size in the residential district is 0.5 acre with water and sewer and one acre without with 100 ft. frontage. Lot size in the residential agricultural district is either one, one and a half or two acres depending on soil conditions with 200 ft. of frontage. The commercial district does not establish a minimum lot size; however, it does establish a maximum lot coverage of 75 percent. The industrial district requires a two acre minimum lot size with 200 ft. of frontage and lot coverage cannot exceed 60 percent or 40 percent in the aquifer protection district. Cluster developments are permitted in the residential and agricultural district with a minimum tract area of 15 acres with 500 ft. of frontage; no minimum lot sizes or setbacks are established. In addition, the Town has adopted a number of regulations to protect its natural resources such as a floodplain conservation district, a wetland conservation district and an aquifer protection district.

GREENVILLE

Greenville's zoning within the study corridor is predominantly industrial and commercial with small sections of residential and rural/agricultural. The following uses are permitted in each district:

Rural/agricultural: single-family residences; convalescent or nursing homes; educational use, place of worship or public and semi-public nonprofit uses; veterinarian, commercial stable or kennel; general farming; roadside stands for the sale of produce grown on the premises; commercial agricultural uses; cemeteries; public utility installations; excavations of natural materials; accessory uses to permitted uses; home occupations; and start-up home businesses; permitted by special exception - inn or tourist home.

Residential: single-family residences; two-family residences; educational use, place of worship or public and semi-public nonprofit uses; public utility installations; accessory uses to permitted uses; home occupations; and start-up home businesses; permitted by special exception - multi-family housing and inn or tourist home.

Commercial: retail business establishments; professional offices; banks and financial institutions; real estate offices; restaurants, cafeteria, bakery and confectionery shops; grocery or general store; place of worship; inn or tourist home; indoor theater; private club; self-service storage centers; health care facilities; recreational facilities; building supply facilities; and accessory uses to permitted uses; permitted by special exception gasoline service station or garage, single-family residence, two-family residence, multifamily housing, and light industry.

Industrial: any industry whose use or process is not obnoxious or offensive by reason of gas, radiation, odor smoke vibration, liquid discharge, illumination, noise or appearance and which does not constitute a public hazard whether by fire, explosion or otherwise; plants for the processing and distribution of milk and dairy products for human consumption and for bottling or packaging beverages, pharmaceuticals, and toilet preparations perfumes and similar products; printing, publishing and general contractors; restaurant and cafeteria; and accessory uses to permitted uses; permitted by special exception - uses permitted in the C and C-I districts.

Minimum lot size and frontage requirements for single family buildings are one acre/150 ft. frontage with municipal sewer and two acres/200 ft. frontage without. Minimum lot sizes for multifamily buildings range depending on the number of units in the structure. A 0.5 acre minimum lot

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size is required within the commercial district and a five acre minimum lot size is required in the industrial district and minimum frontage for both is 200 ft. regardless of whether or not municipal or sewer service is provided.

NEW IPSWICH

The New Ipswich section of the study corridor is zoned rural except for one section just north of Water Loom Pond which is zoned Village District I. The following uses are permitted in each district:

Village District I: single-family dwellings and accessory uses; two-family dwellings and accessory uses; places of worship; permitted by special exception inns, bed and breakfasts, nursing and convalescent homes, daycare and day nurseries, and kindergartens, professional uses and home occupations, and multi-family dwellings.

Rural: any use permitted in Village District I and II; mobile homes; cluster developments on 10 acres or more; agricultural uses; recreational uses; roadside stands; greenhouses; stables and riding schools; summer camps; permitted by special exception - uses permitted by special exception in Village District I and II, commercial, business, industrial, excavations, group home, camping area, saw mills, slaughter houses, junk yard, heavy equipment business, light industry, veterinary clinics, kennels, residential cluster on tract less than ten acres.

Minimum lot size in the Village District I is one acre with 200 ft. of frontage. Minimum lot size in the rural district is two acres with 200 ft. of frontage. All structures and parking lots must be set back 100 ft. from the normal bank of all lakes, ponds, rivers, streams and brooks. In addition, the Town has a floodplain district and a steep slope district.

(d) Water Quantity

List the location of all operating stream gauge stations maintained by the U.S. Geological Survey, U.S. Army Corps of Engineers or the Department of Environmental Services. Include the number of years of record and whether it is a partial or full record station.

Souhegan River flow data is collected at the stream gauge station in Merrimack located just above Wildcat Falls. The station operated as a full station until 1976 when it was converted to a partial station that is used only during periods of extreme weather, to estimate flooding conditions or drought severity.

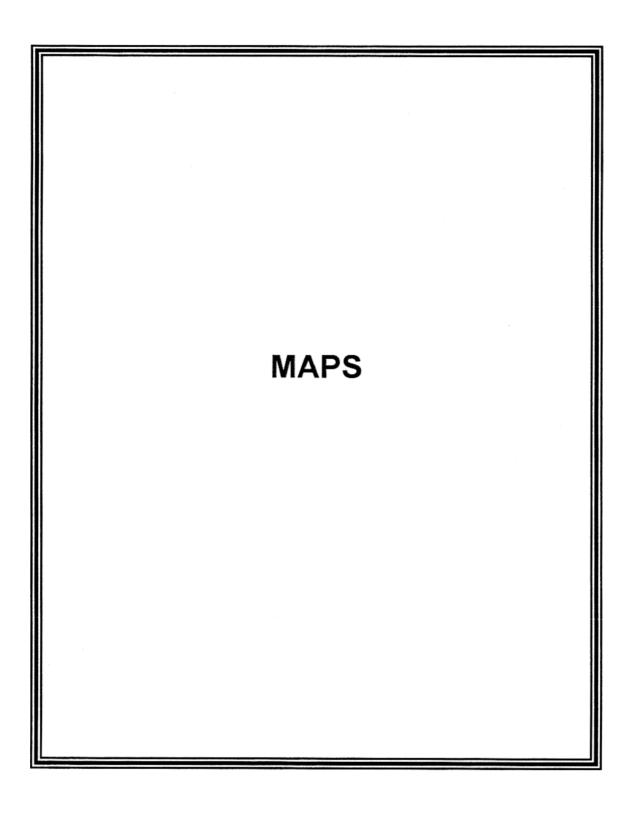
(e) Riparian Interests/Flowage Rights

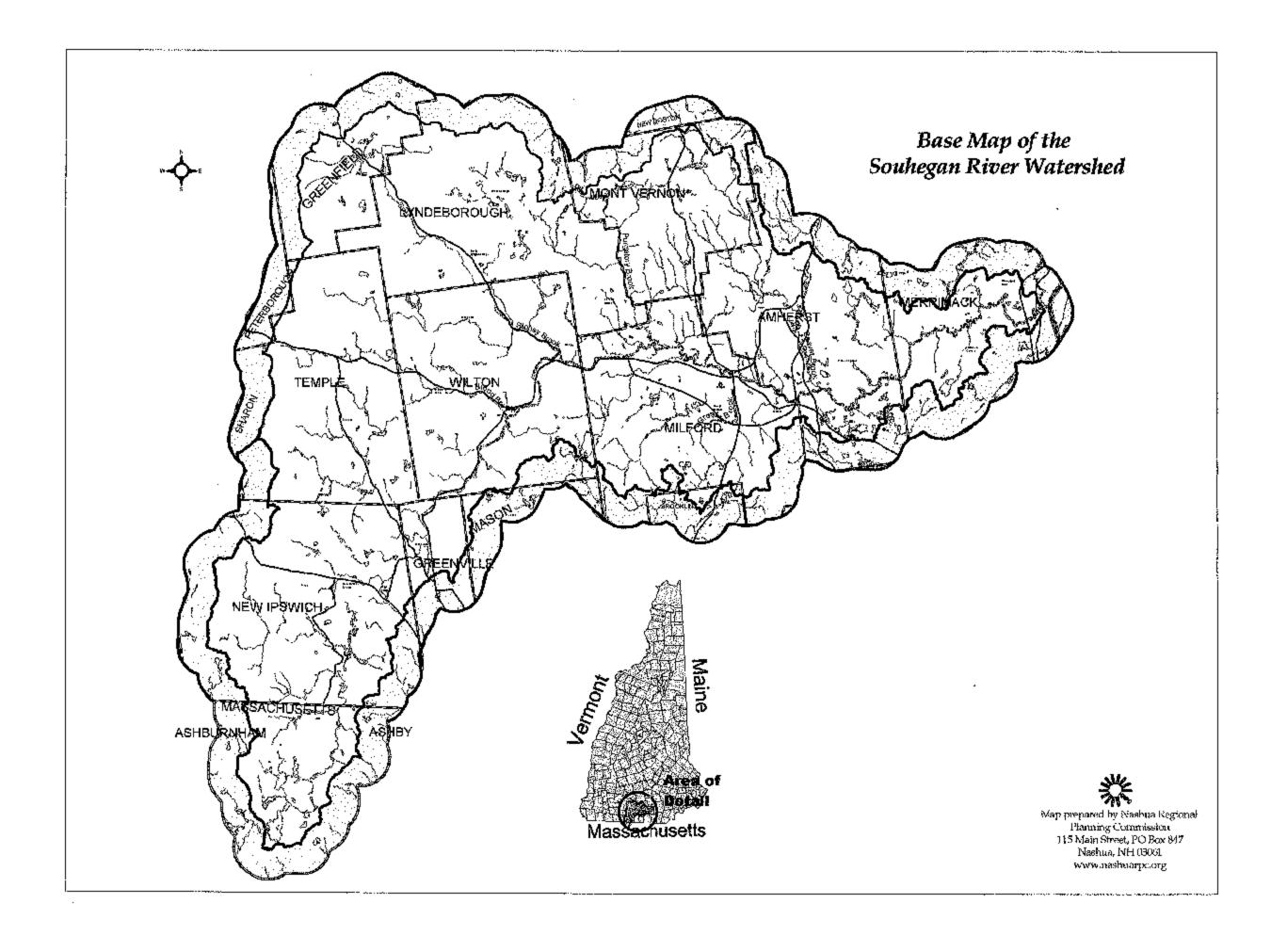
Briefly describe any riparian interests in the corridor, including any known flowage rights, historic water uses, and legislative authorizations or appropriations (for example, a town given legislative authorization to water for public consumption in the 19th century).

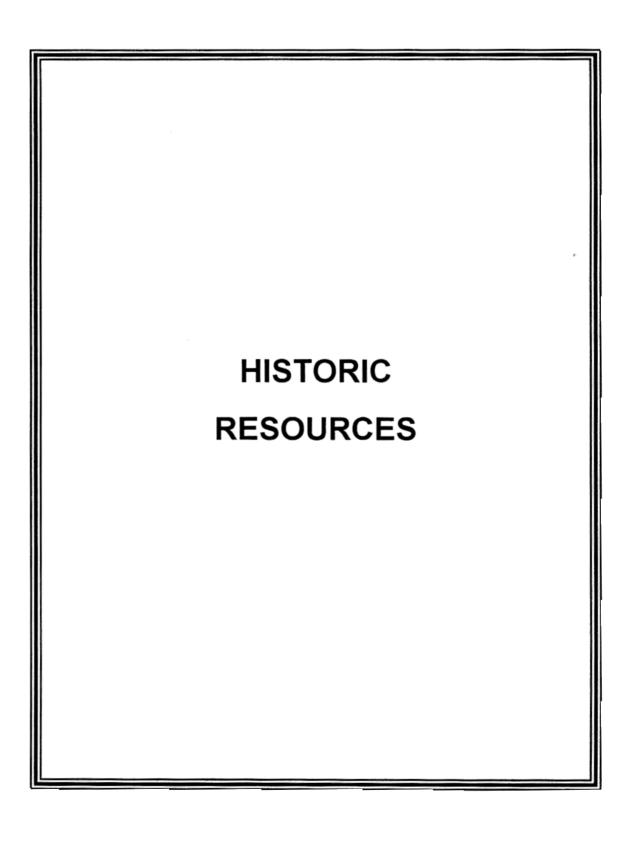
Pennichuck Water Works withdrew water from the Souhegan from 1965 to 1984 at a maximum rate of 10.8 cfs. While Pennichuck no longer uses this withdrawal for public supply, the company maintains the right to withdraw water in the future.

#500T.'-5

<u>Final note:</u> Before submitting the nomination, please check the form for completeness. Nomination forms are reviewed for completeness by the Department of Environmental Services. Be sure to consult Env-C 700 and RSA 483 to make sure that all information requirements have been met. Incomplete nominations will be ineligible for consideration by the State Legislature in the next legislative session.







CHAPTER VII

HISTORIC RESOURCES

A discussion of the resources which characterize the Souhegan River corridor would be incomplete without consideration of man's use of the river through the years and the imprint which has been left by his historic structures and sites. Like other environmental resources, cultural resources are nonrenewable; and what is lost now through abuse, neglect or ignorance is lost forever.

Over the years, a wide range of uses have been found along the Souhegan River corridor. Indian footpaths were found along its banks by early settlers. Fords and fences were gradually succeeded by bridges. Early settlers established farms on the rich intervale lands. Soon, the tremendous potential of the force of the river attracted saw and grist mills, which were later supplanted by cotton, wool, shoe and woodturning mills, among others. Dams were constructed, initially to harness the water power of the river for manufacturing, later for the production of hydroelectric power. In some areas village centers were established on the banks of the river.

The following chapter presents an historic overview of the study area including discussions of significant archaeological and historic sites and resources. The various tools available for the preservation of these resources on the local, state and federal level are also discussed. The chapter does not attempt to be a complete and comprehensive inventory of all local resources, but is intended as a departure point for future action.

HISTORICAL DEVELOPMENT OF STUDY AREA

Over three hundred years ago a band of Penacook Indians settled on the banks of a river they named "Souhegan", roughly translated as "river of the plains". The Souhegan tribe hunted and fished the river; their trail followed the river through present day Milford, Wilton and Greenville. A 1652 scouting report indicated there were about 50 Indian families near the mouth of Salmon Brook and the Nashua River and many more along the banks of the Souhegan and Merrimack Rivers.

The year 1725 marked a turning point for the settlement of the region with the ending of the Captain John Lovewell's War. As a result of the defeat of the Souhegan and Naticook tribes and the retreat of most of the Indians, more rapid settlement and agrarian development ensued. Early settlers cleared the land and established sawmills to transform the felled logs into material for houses and barns. Each of the communities had its own early saw and grist mills on the Souhegan River.

Early settlements by Europeans were promoted by an abundance of physical features and attractions including meadow land, uplands ready for cultivation, fishing and trapping potential. Salmon were caught in the Souhegan as late as 1773 and 1774. The fur trade in particular was a significant catalyst in opening new lands to settlement. As beaver were successively trapped out of areas near the frontier trading posts, Indians began exploiting these resources in new regions that were increasingly remote from the European settlements. To maintain their business, traders followed; and as the Indians moved to new areas, European settlers moved into the abandoned clearings. By 1667, the fur trade with the Indians had become so important that the Provincial Court of Massachusetts passed an act regulating it.

By 1662 Passaconaway, chief of the Souhegan Indians, had lost or sold all of his land in the region and was forced to petition the Massachusetts General Court for a grant of land for a residence. The Court gave the Chief a piece of land north of the Souhegan River, measuring 1 1/2 miles wide and 3 miles long on

both sides of the Merrimack River. The old township of Dunstable was chartered in 1673, comprised of sixteen neighboring communities in New Hampshire and Massachusetts, including portions of Amherst, Milford and Merrimack. Parts of the old township began breaking away as separate communities about 1740. After the southern boundary of New Hampshire was established in 1741, the towns that had been established under Massachusetts rule had to petition for new charters. On April 2, 1746 the land from Pennichuck Brook north to the Souhegan River became the Town of Merrimack. In 1750 the northern part of town, once part of Narragansett No. 5, later Bedford and consisting of land returned to the government by Chief Passaconaway and his son, was added along with a strip of land on the western boundary. A meetinghouse was built near Turkey Hill Bridge in 1756 at the center of the town. The meetinghouse burned in 1898 and a plaque on one of the original doorsteps marks the site.

Amherst was incorporated in 1760 and included what was to become Milford, individually incorporated in 1794, including Amherst's southwest parish. Another early town was Monson, established in 1746 but only surviving 24 years. The township contained about six square miles and extended south of the Souhegan River from above Jones' Corner in Milford to a point below Danforth's Corner in Amherst. Due to the lack of a central location for a meetinghouse, Monson was distributed to Amherst and Hollis in 1770, including areas of what is now Milford, Brookline, Amherst and Hollis. As compensation for lands taken from them, in 1734 Groton was granted a triangular territory of 10,800 acres called Groton Gore, extending into the present day Milford, Wilton, Brookline, Mason and Greenville.

Masonian grants included what is now Wilton, New Ipswich and Greenville (formerly Mason Village). The Masonian grants date back to grants made to Captain John Mason, a London merchant, officer in the Navy and former Governor of Newfoundland, by James I in 1621 and 1622. The vast, loosely defined territories included much of southern New Hampshire and Massachusetts and became the subject of considerable dispute and litigation. After the deaths of Mason's heirs, charter titles purchased later by a company who gave grants to settlers, became known as the Masonian Proprietors.

In 1736, the government of Massachusetts Bay granted a charter to inhabitants of Ipswich, Massachusetts for what was to become New Ipswich. The Masonian proprietors claim, confirmed in 1745, annualled the earlier grant. The act of incorporation of New Ipswich dates to 1762. The first permanent settlement of New Ipswich, that of Abijah Foster, dates to 1738. Early settlement was largely located along the banks of the river, in the vicinity of Town Hill. During the summer of 1748, the descent of about eighty Indians led to the desertion of the town for several months. Bridges over the river were in place as early as 1750 although the section of the river road from the High Bridge to the Mason (now Greenville) town line was not constructed until 1828.

The area known today as Wilton and Mason was known as Salem Canada from 1735 until 1749. Later the grants were known as Number One (Wilton) and Number Two (Mason). The town of Wilton was first settled in 1739 and incorporated in 1762. As in many towns, the grantors of town set apart two lots of eighty acres each to encourage the building of saw and grist mills. By 1839 the town contained 8 sawmills, 5 grist mills, 3 tanneries, 2 fulling mills, one bobbin manufacturer, one cotton mill and one potato starch factory. The original town center of Wilton was located in the area known today as Wilton Center. During the 18th and early 19th century, the village of West Wilton was the industrial core of the community. The availability of water power from Stony Brook and the Souhegan River, in conjunction with the advent of the railroad, increased the prominence of East Wilton. The first land grant in Mason dates to 1749. The town was incorporated in 1768. The village which grew near the mill and falls of the

Souhegan was known as Mason Harbor, Mason Village and sometimes, Souhegan Village. In 1871 a proposition by James Chamberlin to buy the old town house at the center of Mason and build a new town building led to considerable division. As a result, in 1872, Mason Village was individually incorporated as Greenville.

In Merrimack the first four known settlers arrived in 1722. Their settlement was known as Souhegannock, later Souhegan. As early as 1735 a bridge was in place over the Souhegan River. There were three early mills in town including that of Daniel Stearns (later Fullers Mills). Simeon Cummings owned a mill at Atherton Falls while John Chamberlain owned a mill at Souhegan Falls near the present fire station. John Chamberlain was given three hundred acres of land to establish a saw mill and grist mill in Merrimack by the Brenton proprietors. He came here sometime prior to 1734 and built a mill at Souhegan Falls in 1744, where Route 3 crosses the Souhegan River today. Early on this village became known as Souhegan Village, later called Merrimack. In 1735, 120 acres were granted to Joseph Blanchard to erect a sawmill and corn mill on the Souhegan. Other mills were built along Baboosic Brook and Pennichuck Brook.

The name "Milford" commemorates the settlement that grew up near the mill at the ford of the Souhegan River, built by John Shepard in 1741. Another early settler, John Burns paddled up the Souhegan and settled in the southern part of town. During the years when Indian attack was an imminent threat, an important garrison was located near the Peabody place on the north bank of the Souhegan River, with the next closest located in Lyndeborough. The town was also the location of an important river crossing in early days. It is said that in 1760 Col. John Goffe crossed the Souhegan in Milford on his way to Crown Point and in 1777 General John Stark crossed the river in Milford on his way to Bennington.

The earliest industrial development in the region consisted of saw and grist mills. The introduction of low priced flour and grain from the West put most of the local grist mills out of business. Steam powered plants and portable mills powered by steam and later gasoline, similarly made the earlier saw mills obsolete. In addition to the early sawmills and gristmills, the valuable water power afforded by the Souhegan attracted a number of industries to its banks in each of the communities, except Amherst, within the study area. In many cases successive mills were built on the same site, as water privileges were transferred and technology changed.

At one time ten cotton mills operated in the Town of New Ipswich. Today only a single brick mill at High Bridge survives. The first cotton factory built in the State of New Hampshire was erected in New Ipswich in 1803. The first mill went into operation in December 1804 and contained 500 spindles; a second factory was begun in 1807. Both factories were in operation well before any other factory was built in the state to make cotton yarn. After the introduction of the power loom, the original mills were replaced in 1821 and 1825 by the Waterloom Mill, manufacturing jeans, flannels and tickings. In 1854 the Columbian Manufacturing Company purchased the Mountain Mill, formerly called the Waterloom mill and erected a new factory (#3) for the manufacture of denim, containing 2190 spindles and 54 looms. In 1895 the mill, built on the site of the first cotton factory in New Hampshire, was condemned as unsafe and dismantled.

About 1825 two other cotton mills were put in operation on the Souhegan in New Ipswich. One of these was later rebuilt under the name of the Columbian Factory No. 2, which still exist as Warwick Mills. In 1845 the Columbian Manufacturing Company purchased the Souhegan water privilege near the high bridge and on the site of a burnt factory erected a large brick mill measuring 120×44 , containing 3328 spindles and 100 looms for denims.

A Clothiers Works and Fulling Mill was built on the site of the Waterloom Mill in 1776. In 1800 it was purchased by Ephraim Hartwell who made linseed oil from local flax as well as oatmeal for druggists in Boston, who had previously had to import from Scotland. Other industries in town included making cigars, broadcloth, satinet, velvet, doors, chairs, carriages, blinds, coffins, barrels, matches, trunks, saddles, ink and soap. Many of these were made at Mill Village, now Smith Village and not all of these were manufactured on the Souhegan. Other factories on the banks of the Souhegan included an old iron works on the north branch which was converted in 1810 into a cotton factory, in 1826 to a sawmill, and c. 1850 to a bed manufactory. For a time from about 1810 to 1826 woolen mills were manufactured on the north branch of the Souhegan by John Everett.

The earliest mills in neighboring Mason Village (later Greenville) were saw and grist mills built by Thomas and Charles Barrett about 1752 and later sold to Amos Dakin. The first dam above the bridge was made by Amos Dakin about 1788. Below the dam, on the south side of the river, a carding and fulling mill was built by John Everett about 1800. This was removed in 1829 to make way for the No. 1 mill. As in New Ipswich, the Columbian Manufacturing Company later built additional substantial brick mills on the Souhegan River, which belonged to and were managed by the same company, under the same agent as the New Ipswich mills. Chartered by the New Hampshire legislature in 1826, the Columbian Manufacturing Company built its No. 1 factory in Greenville in 1829 under the direction of company agent, Charles Barrett. The mill measured 100 feet long by 43 feet wide and initially contained 64 looms for weaving sheetings and shirtings. It was later expanded to contain 2946 spindles and 77 looms for making denims. In 1854, the company purchased the old grist and saw mills, on the site originally occupied by Amos Dakin's mills, and erected a building for dyeing and finishing, known as Mill No. 4. Mill No. 6 was constructed in 1872. The yarn for all of the Columbian Manufacturing Mills in New Ipswich and Mason was dyed at Mason and all the cloth from the mills was finished and packed there as well. At Mason in the late 19th century 15,384 pounds of cotton was consumed per week for a weekly production of 42,120 yards of denim or 2.19 million yards per year. At the New Ipswich mills, the weekly consumption was about 13,505 pounds and 1,909,400 yards of cloth were produced annually.

Two textile companies have operated in Milford during the course of its history. The first attempt to establish a manufacturing business in Milford occurred in 1810 and in 1813 the Milford Cotton and Woolen Manufacturing Company erected a factory on the south side of the river. In 1814 they began manufacturing cotton yarn and in 1824 began making cotton cloth by power loom, although they suspended business in 1833. The mill was later occupied by the American Thread Company and the Middlesex Linen Company, manufacturers of dress goods and linen toweling, employing about one hundred hands. Later mills which flourished in Milford include the Pine Valley Company, later Hillsborough Mills, which manufactured woolen carpet yarn. A mill was on this site as early as 1814. It burned down in 1839 and a new mill was built on the site in 1851, which subsequently burned down in 1872. The present building was constructed in 1873. At the turn of the century the mill produced \$400,000 worth of carpet yarns, bed blankets, horse blankets and cassimeres, employing an average of two hundred persons.

During the 19th century, Wilton became a leading manufacturing and commercial center for the region, specializing in the production of flannel and dress goods. The earliest textile manufacturer, the Wilton Manufacturing Company, was incorporated in 1829. The initial mill burned in 1839 and was rebuilt in 1849, initiating the manufacture of carpet yarn in 1851. The mill burned a second time in 1872. The Colony Brothers Mill, manufacturing blue and scarlet flannel woolens, constructed a large four story brick and stone mill in 1882 where two previous mills had burned. In the late 19th century the mill

produced one million yards of flannels and dress goods, employing 75. Fires caused the downtown to be rebuilt three times in the late 19th century. The first fire in 1874 destroyed the Whiting Hotel, where the Town Hall is today, the Masonic Hall and the library in addition to numerous residences and other buildings. A fire in 1881 destroyed many of the buildings that had been rebuilt after the first fire including the Masonic Hall, bank and library. The third fire in 1885 again destroyed much of Main Street and at one point even endangered the railroad bridge crossing the Souhegan River. In 1932, Hillsborough Mills, which also had a large mill in Milford, took over the worsted mill in Wilton. The woolen mill in Wilton ceased operations about 1970 and was subsequently purchased by Label Art.

The first furniture factory in Merrimack was operated by Houghton and Henderson on the Souhegan. The business later made only tables and was operated by Thomas Parker, and later by David Jones, in 1929 by E.R. Bates and in 1945, by Dingott Furniture Co. A small bobbin shop also operated on the Souhegan and was later converted into an excelsior factory by Charles Nesmith. This factory, near the railroad station and later sold to Haseltine and Gordon, was destroyed by fire in 1946.

In the 1890s Gordon Woodbury of Bedford erected a large shoe factory on the banks of the Souhegan River in Merrimack. In 1906 shoe manufacturers W.H. McElwain Co. purchased the large plant and water privilege at Souhegan Falls with the intention of enlarging the dam to generate hydro-electric power. Although W.H. McElwain died before this was accomplished, the company carried on the manufacture of sole leather and leatherboard until 1921, employing about one hundred men. In 1921, the International Shoe Co. purchased the McElwain property and operated the factory as a tannery. It was later occupied by the Gate City Poultry Company. Other local industries included a cement pipe manufacturer.

In the mid to late 19th century, the existence or lack of rail opportunities was to have a major impact on the growth and direction of individual communities. For example, a lack of significant water power and a single rail station at the outskirts of town largely reduced Amherst to a small farming and residential town. The Boston and Maine station, south of the Souhegan River and the present 101A, no longer stands. New Ipswich, similarly found itself lacking in direct rail access. For other communities, the railroad and ready access to markets reinforced industrial development. In 1850 the Peterborough and Shirley Railroad (later the Greenville branch of the Fitchburg Railroad) began running through Mason to Mason Village as far as the river. Two years later the line was extended to its final terminus in the village at Main and Dunster Streets. In Milford, the railroad came at the peak of industrial activity. The town was well served by two lines and six flag stations. In the early 1900s sixteen trains, mostly freight, left town daily. The Wilton line connecting Milford and Nashua was completed in 1850. Two years later it was extended to Wilton and became known as the Wilton Railroad. A second line connecting Milford with Manchester opened in 1900. The covered railroad bridge built at East Milford over the Souhegan disappeared long ago. In Merrimack the Concord and Montreal Railroad followed the path of the Merrimack River, with a station convenient to industry located just south of where the Souhegan meets the Merrimack. This station still stands on Railroad Avenue. In addition to servicing the textile industry, the availability of rail made quarrying possible on a large scale, and also eased the transport of milk and eggs to Boston.

The textile industries and other factories that defined the region's industrial base for much of the 19th century continued to flourish in the early 1900s. By the mid twenties, shoe factories began locating in the state, in Merrimack among other locations. By the end of World War II, however, the prosperity of the mills was threatened by a shift in the textile industries from

northeast locations to more favorable southern climates. Some communities such as Merrimack were fortunate to attract an influx of other industries including electronics, defense and computer firms. Others including Wilton and Milford were able to maintain a strong manufacturing tradition while other more rural communities have seen their identities redefined to include the role of "bedroom community", reinforced by improvements to the transportation network such as the construction of the Route 101 Bypass in the early 1950s.

ARCHEOLOGICAL HISTORY AND RESOURCES

Indian settlements were once common along the banks of the Souhegan River. The River and its banks provided the native population with many readily exploitable resources including fish, migratory birds, flora and fauna. Prehistoric and historic archeological sites, such as Indian sites and cellar holes contribute to the understanding of a community's past in a way which no written record can. Although archeological resources are divided into prehistoric and historic categories, this section will deal only with resources dating until the Contact Period; historic archaeological resources are discussed later in this chapter.

Archeological sites can generally be categorized as semi-permanent villages, seasonal camps for fishing, hunting and/or gathering, quarries, workshops and burial grounds. Often sites include a combination of features. In predicting locations where archeological sites might be expected to occur, archaeologists take into account environmental conditions including proximity to water, soil conditions, slope and exposure. Yet, it should be noted that many "predicted" sites may be found to contain no significant resources after field investigation.

A primary requirement for any settlement would obviously be the availability of potable water from springs, lakes or streams. Water also provided a critical network for travel and a source of food. Soils were also an important consideration in determining residential sites. Sandy or light, gravely soils were most often selected in upland regions, and silty, alluvial soils were sought in river valleys. More permeable soils were preferred because of their rapid drying qualities and also because pits and burials excavated with sticks or hands were more easily worked in these soils. Level ground was preferred except where specialized activities dictated site selection. Residential sites are almost always found oriented toward the south or southwest to maximize periods of warmth and sunlight.

Archaeologists typically divide cultural prehistory into several distinct periods. The prehistoric sequence begins with the Paleo-Indian (12,000-10,000 years before present) and Early Archaic (10,000-8,000 B.P.) periods, continues through the Middle Archaic (8,000-6,000 B.P.) and Late Archaic (6,000-3,000), and concludes with the Woodland Periods, Early (3,000-1,900 B.P.), Middle (1,900-1,000 B.P.) and Late (1,000-1,600 A.D.). The Contact Period, which represents the initial period of European or Anglo-American settlement and interaction with the Indian population, only lasted about 50-60 years. European settlers first entered this region in the 1600's and by 1662 most of the Indian population had been decimated by disease or had relocated.

Occupation during prehistoric times along the Souhegan River is well documented and a number of sites have been recorded. Among the trails travelled by the native population was the Souhegan Trail, which followed the river through present day Milford, Wilton and Greenville. In late prehistoric time the valley of the Souhegan River provided an important link between the Merrimack valley and the lower Contoocook Valley and with Indian villages in the Lancaster, Massachusetts area. Traditionally, the Penacooks and Souhegans have been associated with the area. It is thought that a number of sites along the river

can be directly associated with these trails while others were perhaps seasonal hunting/gathering stations. Several miles near the mouth of the river occupation was probably limited to a few small hunting or fishing stations. Although no large permanent or semi-permanent village sites have been located, they are suspected throughout a number of towns situated along the Souhegan. In recent years, a number of interesting discoveries have been made along the banks of the river, including the first documented Indian cemetery in New Hampshire. Within the study area, several prehistoric sites and districts of significance have been documented within one thousand feet of either side of the Souhegan River.

The Division of Historical Resources keeps on file a list of known archaeological sites throughout the state. These sites may be discovered during the review of cultural resources required of projects receiving federal funds, in the course of local construction or utility work, or through other means. This list does not necessarily reflect the quantity or quality of archaeological sites in a town. Listed below are the known archaeological sites in the study area. There are additional reports at the DHR which report on field investigations which have yielded no archaeological remains.

KNOWN ARCHAEOLOGICAL RESOURCES IN SOUHEGAN RIVER VICINITY ON FILE AT STATE HISTORIC PRESERVATION OFFICE

Site Name	Site No.	Community	Time Period
	44SW27HB5	Milford	
Jones Crossing	44SW27HB3	Milford	Woodland
Turkey Hill	NH44-1	Merrimack	prehistoric
N/A	NH44-2	Milford	unknown
N/A	NH44-7	Amherst	unknown
N/A	NH44-8	Milford	unknown
Potter Site	NH44-12	Milford	prehistoric

Source: NH Division of Historical Resources.

SIGNIFICANT HISTORIC & ARCHITECTURAL RESOURCES

AMHERST

House, 44 Stearns Road (c. 1750)

A fairly rare local example of the classic cape form in a 3/4 variation. The structure appears to have been constructed between 1751 and 1756 by Isaac Farwell of Monson on 100 acres. In the 18th century, the farm was given the name Honey Pot Farm, due to its proximity to Honey Pot Pond. Determined eligible for the National Register as part of the Rt. 101A Bypass Project.

GREENVILLE

Dakin-Barrett House, Main and River Streets (1814)

This two story structure in the center of town is considered one of the finest brick-end Federal houses in the area, constructed in 1814 for Timothy Dakin.





Dakin House, Main Street (c. 1780)

One of the earliest surviving structures in town, this saltbox style house was built by Thomas Dakin, son of first town resident Amos Dakin, in the 1780s.

Gothic House, Main Street at Granite Ave. (c. 1850)

A textbook example of the Carpenter Gothic style, this board and batten cottage with decorative bargeboard and pointed arch windows was constructed by Deacon Merrill Dodge in the 1850s.



James Chamberlin House (c. 1860) Town Hall, Main Street (1935)

This cupola capped, Italianate style house dating to the early 1860s was constructed for James Chamberlin, whose descendants still occupy the house. It was James Chamberlin who in 1871 proposed to buy the old town house at the center of Mason and build a new building, which led to the division of Greenville from Mason. Next door, the present Georgian Revival structure replaces the old Town Hall built in 1876 and destroyed by fire in 1935. Land for the original town house was purchased from James Chamberlin.



Columbian
Manufacturing
Co. Tenement,
Main Street
(c. 1860)

This brick,
mansard roofed
structure was
constructed as
mill housing by
the Columbian
Mills. Next
door, a former
carpenter shop
and stable now
serve as a
firehouse and
the Le ClairCarey Post Home.



Across the bridge is the site of the first of the Columbian Manufacturing Company mills built in town, built in 1829 under the direction of mill agent, Charles Barrett. The mill was lowered in 1892 and later outfitted for hydro electric



Mill No. 4, Main and Mill Streets (1854-6)

Constructed by the former Columbian Manufacturing Company, this Gothic Revival brick mill has been converted into senior citizen housing. Chamberlin Mill, Mill Street (1857)

Downstream from Mill No. 1 is the Chamberlin Mill, a brick mill and cabinet shop known for many years as the Chair Factory. Today it functions as engineering offices.

Across the bridge is Mill No. 6, built on land owned by Loami Chamberlin



who died in 1853. It adjoined the Columbian Cotton Mills. As seen today, the mill is reduced in height from its original appearance and serves a hydroelectric function.

MERRIMACK

O'Keeffe House, County Road (c. 1780)

An excellent example of the Georgian style, this 2 1/2 story house displays a characteristic large central chimney and transommed center entrance capped by an entablature lintel. The house appears to date to the late 18th century although the town history states that there was a house on this site, at Hickory Hollow, as early as 1748. The covered bridge which spanned the river near the house until 1967 was called both Seaverns and Field Bridge, after families living in this house.

Disco House, Wilson Hill Road (c. 1780)

Built on the south side of Wilson Hill Road with the River behind, the oldest part of this house is the cape style dwelling at the rear. A larger 2 1/2 story addition, just a single bay wide, was placed at right angles in front of the cape in the late 1700s.

Turkey Hill Cemetery and Site of First Meetinghouse, Turkey Hill Road (1771)

A granite stone, believed to be the original doorstep, is all that remains of Merrimack's first church and meetinghouse, which was erected in 1756 and burned in 1896. The walled-in section of the meetinghouse lot, Turkey Hill Cemetery is the first cemetery mentioned in town records. The oldest known grave in the cemetery dates to 1771; the cemetery was used for over 150 years.

Country Gourmet, 438 Daniel Webster Highway (c. 1820)

Now serving as a restaurant, this well-preserved early 19th century house in Merrimack Village displays a handsome semi-circular fanlight characteristic of the Federal style.

Former Train Station, Railroad Avenue (c. 1880)

Typical of train stations of the era, this clapboarded station displays a hip roof with overhanging eaves supported by large brackets. A small cluster of late 19th century houses are found along Railroad Avenue, built in response to the construction of the railroad and development of industries along the Souhegan.

MILFORD

Stone House, 74 Nashua St. (1818)

This unusual house, measuring five bays wide on the first floor and two above is Milford's only stone dwelling, built in 1818 by Benjamin Goodwin. A louvered fan decorates the attic.



Humphrey Moore House, 43 Elm St. (1820)

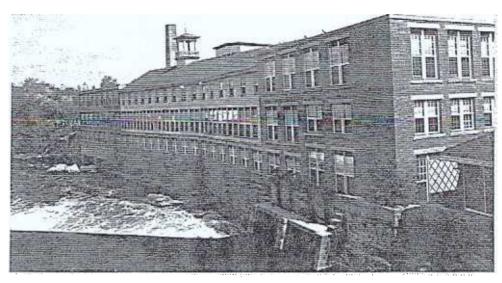
This hip-roofed brick house was built in 1820 by Humphrey Moore. Moore was the first settled pastor in Milford, ordained in 1802, and married Hannah Peabody, daughter of one of first settlers. Ultimately Moore owned over 300 acres of meadow along Souhegan River.

North River Road Houses (late 18th-early 19th century)

Just outside of the study area on the north side of North River Road are several late 18th and early 19th century dwellings which historically included intervale lands on the south side of the road. These include the Abner Hutchinson House, erected in 1775 on a knoll surrounded by spruce and maple. In the 1890s the house was a popular vacation spot for summer boarders from Boston. Burnham's Tavern, also known as the Hutchinson Family Homestead, was built in two parts dating to 1773 and 1785.

Milford Cotton and Woolen Manufacturing Company Mill, Bridge Street

Listed on the National Register of Historic Places, this brick mill complex reflects more than a century of textile manufacturing in Milford. The first factory was built in 1813 and at the core of the factory is what may be the



original wooden three story cotton mill probably rebuilt in 1838. The mill was first enlarged about 1860; other additions and alterations were made in 1883 and 1916.



Savage Farm, 475 Rt. 101 (opp. Old Wilton Road) Pine Valley Mill (Hillsborough Mills), Rt. 101 (1873)

Although a mill was on this site as early as 1814, the present mill building was erected in 1873 for the manufacture of woolen carpet yarn. On the north side of North River Road are a pair of mill houses constructed in conjunction with the mill. The narrow strip of land between Rt. 101 and the railroad tracks also gave way to a row of humble dwellings in the late 19th century. A depot was formerly located south of the mill, on the south side of the train tracks.

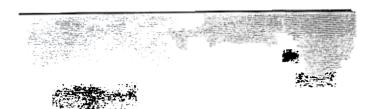
Milford Town Hall, On the Oval (1870)

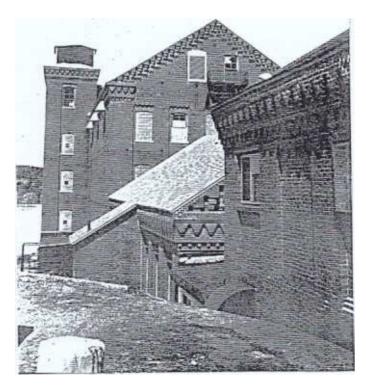
Listed on the National Register, Milford's Town Hall is an impressive brick building completed in 1870, displaying a combination of Italianate and Second Empire style detailing and designed by prominent Boston architect Gridley Bryant.



Down the street, also facing the oval and bandstand, is Eagle Hall, Milford's first meetinghouse, built in 1784 but achieving its present appearance after it was moved in 1846.

NEW IPSWICH





High Bridge Mill, Columbian Manufacturing Company Rts. 123 and 124 (1875-6)

This five and one-half story brick textile mill was erected on the site of two earlier textile mills. Distinctive features include the picker house, cotton storage house and easterly stair tower, decorated by bold corbel tables and dentil molding strips common to factories of the era.

Jonas Woolson farm, Country Club Road (1743 and later)

In 1899 eight men bought this farm on Sol Davis Hill which became the site of the New Ipswich Country Club. The original house was constructed in 1743,

Bank Village, River Road (c. 1820 and later)

"Bank Village" commemorates the Manufacturers Bank which was chartered by the Legislature in 1820 with Charles Barrett as its first president. In 1845 a new building was erected in the middle of town and the bank was removed there. Today, a small cluster of



impressive Federal and Greek Revival style homes are found in this locale.

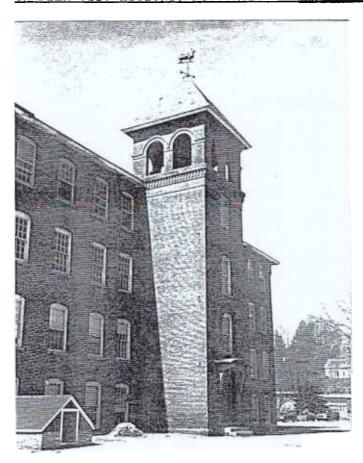
WILTON



Downtown Wilton (late 19th century to present)

Because of the numerous fires, the architecture in the downtown predominantly dates to the late 19th and early 20th century and includes an interesting mixture of historically significant buildings. The centerpiece of the downtown is

the Wilton Town Hall, a sophisticated example of Queen Anne architecture, designed by Merrill and Cutler of Lowell, Massachusetts. Built in 1883, the massive brick and granite building culminates in a monumental domed clock tower. The Wilton Public and Gregg Free Library is a small NeoClassical brick structure completed in 1907. Designed by the Boston architectural firm of McLean and Wright, the library is the only downtown structure listed on the National Register of Historic Places. The former Wilton National Bank is a neo classical stone building built in 1929.



Colony Brothers Mill (Label Art)

Built in 1882 on the south side of the Souhegan River as the Colony Brothers Mill, this four story brick and stone structure later housed the Abbott Worsted Mill.

Former Passenger Station, Main Street (1893)

Celebrating its one hundredth birthday in 1993, this small brick passenger station was designed by Boston architect Alden Frink. At the time, the line from Manchester to New Boston was being built, and a bill in the legislature authorized an extension of the



railroad running between Pepperell, Massachusetts to Brookline, all the way to Milford.

BRIDGE CROSSINGS AND HISTORIC BRIDGES

AMHERST

Ponemah Bridge:

Covered bridge across Souhegan near Poor Farm (now Amherst Country Club) replaced by iron bridge in 1914. Iron bridge replaced in 1974. Poor Farm housed on farm maintained by town since 1831 on Rt. 122 south of Souhegan; buildings burned in 1892.

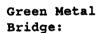
Boston Post Rd. Bridge:

Iron Bridge over Souhegan (replaced in 1974). Section of Boston Post Road from Souhegan Bridge to Stearns Road, known as Honey Pot section.

GREENVILLE

Railroad Bridge:

At one time this was supposedly the highest bridge in New England, "one of the greatest works of art in New Hampshire, spanning the long distance from bluff to bluff, high above the swift waters of the Souhegan". Six hundred feet long and 100 feet high where it crosses the river, the ends of the bridge rest on abutments of stone with two piers of solid stone masonry, up to eighty feet high, originally supporting a latticed framework. The original wooden trestle railroad bridge was built in 1851, burned in 1907 and rebuilt in steel the following years. Today only the impressive stone supports remain.



Early 20th 3 century metal> bridge over the Souhegan.



MERRIMACK

The first bridge over the Souhegan River in Merrimack was known as Chamberlain's Bridge, constructed in 1751 just west of the granite bridge on Rt. 3 near the fire station. It was later replaced by an iron bridge which was east of the present bridge. The present arched granite bridge dates to the early 1900s.

Severns Bridge:

Historically Merrimack had two covered bridges, both of which were destroyed by arson in the late 1960s. The upper bridge over the Souhegan River was known first as Fields' Bridge, because it was built at Henry Fields' house prior to 1776. In 1859 a covered bridge was built at this location. Fields' Bridge was a single span of Town lattice design with round portals, measuring approximately 128 feet long and 16 feet wide. Fields' Bridge also, known as Severns Bridge, was destroyed by arson in 1967 (p. 56).

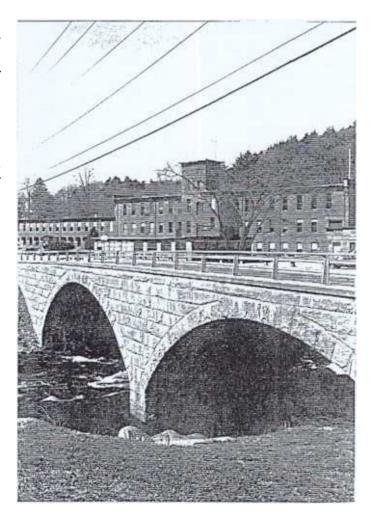
Turkey Hill:

The site of Merrimack's first covered bridge, once one of the oldest in the state of New Hampshire. A bridge was built over the Souhegan at this location as early as 1751 although it is not clear whether this was a covered bridge. In 1830 Samuel Patterson was hired to build a bridge according to the plans of Ithiel Town. In 1859 this was replaced with another covered bridge of Town lattice design with an added arch measuring 133 feet long and 16 feet wide. The bridge burned in 1968 and has been replaced by a modern covered bridge accessible from Amherst Road.

MILFORD

County Bridge:

Located at the northwest corner of town where the Souhegan enters Milford, the first bridge built by the town at this location was a covered bridge built in 1799 and swept away in 1835. A Howe truss type double covered bridge was replaced by a later wooden bridge in 1900 and finally by the present granite arch bridge constructed by the Lovejoy Granite Company in 1917.





It is said that this shallow crossing, known as Jone's Crossing, accommodated John Goffe on his way to Crown Point in 1760 and Gen John Stark on his way to Rennington in 1777. A single

Green Bridge:

on his way to Crown Point in 1760 and Gen John Stark on his way to Bennington in 1777. A single truss covered bridge was erected on this site in 1872. When this bridge burned in 1910 it was replaced by the present iron bridge, an important example of a single span high pratt truss structure.

). Se

Stone Bridge:

In early times, this was the ford at Shepard's Mill from which Milford derived its name. The first bridge on this site was a footbridge built by John Shepard before 1758. A series of wooden public bridges followed culminating in a double stone bridge built first in 1845. The bridge was rebuilt and widened in 1931, at which time electric lights were installed.

RR Bridge:

Swing Bridge:

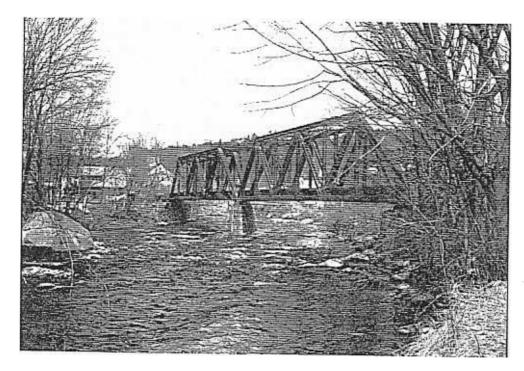
The first footbridge at this site, connecting Bridge and Souhegan Streets, was built in 1850. The present iron footbridge was built in 1889, successor to two wooden footbridges.



NEW IPSWICH

nigh bridge:
The date of this old stone bridge suspended over a narrow chasm 80-90 feet deep is not known. The first bridge on the site dated to 1751.

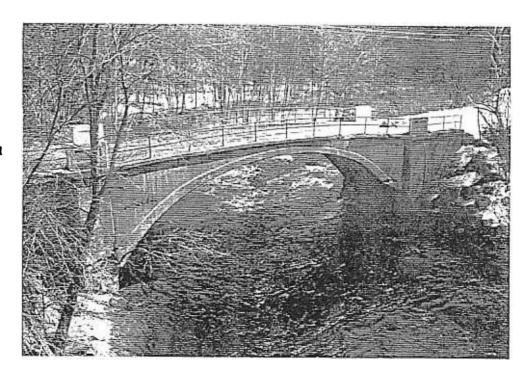
WILTON



Railroad Bridge: An iron railroad bridge suspended over the Souhegan in the downtown area, supported by stone abutments.

Old Rt. 101 Bridge:

Concrete bridge near eastern end of Intervale? Road, designed* and erected by the Sanders Engineering Company of Portland, Maine in 1916.



Green Bridge: Near Monadnock Water Company.

DAMS

GREENVILLE

Chamberlain Falls:

Located near Mill St. bridge, adjacent to power house. Built in 1876 and rehabbed in 1982. Measures 81.7 feet long, of granite block construction. One abutment is the powerhouse and the other is granite ledge.

Otis Falls:

Concrete-faced stone masonry gravity dam on Main Street, adjoining #1 mill. Dam originally built about 1834, rebuilt in 1936 and completely reconstructed again in 1982.

MERRIMACK

Merrimack Village Dam:

Located just upstream from the granite Rt. 3 bridge and 1700 feet úpstream from the confluence of the Souhegan and Merrimack Rivers. Dam is 180 feet long with an ogee type spillway structure, gate structure and canal. The original dam was a gravity stone masonry dam constructed on bedrock. About 1934 a large concrete spillway was constructed over the old spillway and concrete apron at downstream base added. Downstream are the remains of the former International Shoe Company's foundation which burned in 1955.

NEW IPSWICH

Waterloom Falls:

Original dam built in 1834, reconstructed in 1980. Located east of River Road on Waterloom Pond. Old mill abandoned about 1907 for site further down river.

WILTON

Pine Valley:

Small hydroelectric dam.

HISTORIC PRESERVATION TOOLS

A wide range of preservation tools may be used to ensure that historic resources within the study area are preserved, treated with respect and enhanced. These can range from such non-regulatory options as public education — conducting a historic resources survey, school projects on local history or establishment of markers commemorating sites of historic markers, to intermediate measures — such as nominating structures to the National Register of Historic Places or working with a developer who might be unaware of the potential for archaeological resources in certain areas or the need to insure that new design is compatible with older structures and their surroundings. Lastly, a community may opt to use regulatory techniques such as establishing local historic districts or more permanent protection as is offered through the donation of easements. No one preservation tool, even one that is regulatory, can offer blanket protection. A balanced approach that includes education and regulation, embraced by private citizens and local officials alike, is critical to preserving historic resources.

Historic Resources Survey

Preservation through documentation is the most basic and yet the most essential element of a preservation strategy. In addition to providing a permanent written and photographic of a community's historic resources, a good inventory is the foundation for all other preservation tools. Firstly, data gathered in a survey may encourage a greater appreciation of historic structures and sites by local citizens and may be the impetus to get people aware of local resources and ready to think about protecting them. It can be used to prepare nominations for the National Register of Historic Places and can be used to establish local historic districts and set boundaries. Historic resource assessments are also necessary for accomplishing environmental reviews required in projects receiving Federal funding, such as transportation projects. Lastly, a complete historic resources survey can also help a community assess the net worth of its historic buildings and determine which ones are critical to preserve and which ones may be expendable if the need arises. In this way, a community can weigh proposed actions so that it does not inadvertently sacrifice its long-term assets in realizing immediate objectives.

The Merrimack Historic District Commission is currently beginning work on an historic resources survey for the town, with an emphasis on the Rt. 3 corridor. With the exception of areas surveyed by consultants working for the NH Department of Transportation, such as Rt. 101A in Amherst, survey work has not yet been conducted in any of the other communities.

National Register of Historic Places

The National Register of Historic Places is the official list of the Nation's resources worthy of preservation. Established by the National Historic Preservation Act of 1966, and administered by the National Park Service within the Department of the Interior, the Register lists properties of local, state and/or national significance in the areas of American history, architecture, archaeology, engineering and culture. Resources may be nominated individually or in groups as districts or as multiple resource areas and must generally be older than 50 years.

The primary benefit of National Register listing is the recognition it affords and the appreciation of local resources which is often stimulated through such recognition. The National Register also provides for review of effects which any federally funded, licensed or assisted project, most notably highway projects, might have on a property which is listed on the Register or <u>eligible</u> for listing. Register standing can also make a property eligible for certain federal tax

benefits (investment tax credits) for the rehabilitation of income-producing buildings and the charitable deduction of donations of easements.

Contrary to many commonly held beliefs, National Register listing does not interfere with a property owner's right to alter, manage, dispose of or even demolish his property unless federal funds are involved. Nor does National Register listing require that an owner open his property to the public. National Register listing can be an important catalyst to change public perception and increase historic awareness but cannot in itself prevent detrimental alterations or demolition. Yet, it remains an important first step toward historic awareness, respect and protection.

Statewide there are nearly five hundred National Register listings of which approximately fifty are districts. The following list summarizes National Register properties in the study area communities. Of these, only the Milford Cotton and Woolen Manufacturing Company, the Milford Town Hall and the Wilton Public Library are actually in the study area. Although presently the list is entirely composed of historic structures, it should be noted that archaeological sites and districts may also be listed. Each of the communities within the study area have additional resources which would be appropriate for listing on the National Register. Many of these are included in the section of this chapter entitled "Significant Historic Resources" and "Historic Bridges".

Properties in the Study Area Communities Listed on the National Register of Historic Places

Community	Property Name	Date Listed
Amherst	Amherst Village Historic District	1982
Merrimack	Signer's House & Matthew Thornton	
	Cemetery	1978
	McClure-Hilton House	1989
Milford	William Peabody House	1979
	Milford Cotton & Woolen Manuf. Co.	1982
	Milford Town Hall	1988
New Ipswich	New Ipswich Town Hall Village District	1984
Wilton	County Farm Bridge	1981
	Wilton Public and Gregg Free Library	
	Oliver Whiting Homestead	1982
	Daniel Craigin Mill	
	· · · · · · · · · · · · · · · · · · ·	1982
	Stonyfield Farm	1982

Source: NH Department of Historical Resources

Local Historic Districts

The term "historic district" can refer either to an historic district established by town meeting or, as has been previously discussed, to a National Register historic district. Both are useful preservation tools but are different in the way in which they are established and the protection they afford historic resources. The creation and administration of a local historic district (under RSA 674:45) is the most comprehensive preservation tool available to local governments under New Hampshire state law. The purpose of an historic district is to protect and preserve areas of outstanding architectural and historic value from inappropriate alterations and additions which might detract from an otherwise distinctive character. Historic districts should preserve what is significant to a district while accommodating change and new construction in accordance with regulations based on a local consensus.

Historic districting can be an effective technique for protecting the character of an area. Unlike zoning which focuses on land use, an historic district focuses on exterior appearance and setting. In contrast to site plan review, historic districts allow local officials to control construction and alteration of single family dwellings. Effective districts take into account more than just buildings however, looking also at impacts to streetscapes, landscapes, contributing views and viewsheds. Historic districting may not work as well where properties are widely scattered. To protect very large land areas, districting is best combined with other techniques such as easements and open space development.

Within the study area, Merrimack has established a local historic district commission although it has not yet proposed any historic districts to a town meeting vote.

Historic Markers

The State Historical Marker Program was originated by the New Hampshire Legislature in 1955 to erect appropriate markers commemorating events, people and places of historical significance to the State of New Hampshire. Communities who would like to be considered for one of the green iron markers submit a request to the State Highway Department and Division of Historical Resources. There is generally no cost involved for a marker on a state-maintained road. There is a charge of approximately \$1,000 for a marker on a private road. Statewide there are approximately 150 state historical markers. Only one marker has been erected in the study area; it commemorates the first textile mill in the state, built in New Ipswich and is located on the south side of NH 123 and 124. There are many instances where these state markers could be used to effectively direct public attention to riverfront resources.

Guides to trails and signage along trails which are used to educate the public about natural resources should similarly, where appropriate, be expanded to describe events and places of historical interest.

Easements

Preservation easements are one of the most effective and permanent tools for protecting significant historic properties. An easement is a property right that can be bought or sold through a legal agreement between a property owner and an organization eligible to hold easements. In New Hampshire, RSA 447:45-47 covers conservation, preservation and agricultural conservation restrictions, commonly known as easements. Just as a conservation easement can be used to protect open space, natural resources or archaeological remains from incompatible use and development, an architectural easement protects the exterior appearance of a building.

Easements provide property owners with two important benefits. First, the Character of a property is protected in perpetuity. In addition, the donation of an easement may make the owner eligible for certain tax advantages. If the property is listed on the National Register, in return for giving an easement, an owner is eligible under the Tax Treatment and Extension Act of 1980 to make

a deduction from his taxes. Donation of an easement may also reduce estate and local property taxes.

Easements are also extremely beneficial to a community. The costs of acquiring easements may be significantly lower than buying properties outright to protect valuable resources, particularly when easements can be acquired by donation. Significant resources can remain in private hands but are protected from inappropriate alterations as the organization holding the easement is given the right to review any proposed changes to the structure or the property.

If properly administered, easements are a superior method of conserving and protecting land, water and historic resources; perhaps better and longer lasting than zoning or locally designated historic districts.

Preserving Archaeological Resources

The preservation of areas of high potential for prehistoric and historic archaeological sites poses unique problems. In comparison to historic structures, archaeological resources are more difficult to identify and protect. Each site is unique and fragile. Once a site is disturbed, information is lost. While there is often an urgent need to keep the location of an important archaeological resource confidential, the same confidentiality will often preclude public awareness. Increased river appreciation and usage can also represent indirect but very real threats to archaeological resources, even more so than to historic resources. The landscaping of areas, vandalism of the resources on land over which private control has diminished and a general increase in public access will all continue to diminish the cultural resource base. Acquisition of the land or development rights is often the only way to effectively preserve archaeological resources.

Rapid growth has undoubtedly obscured or obliterated many prehistoric archaeological sites in the River corridor. The few applicable laws that protect archaeological resources are primarily federal. As a result of these laws, large highway projects or projects which require review by a federal agency usually include an assessment of impacts to cultural resources. In addition, there are mining laws which allow review of projects for impacts and there is the possibility of review within the dredge and fill process.

However, since much of the region's growth is from private rather than public sources, archaeological evaluation is not required. In some cases such as the Hayward Farms property in Milford, cooperative developers have permitted recording of archaeological data which would otherwise be destroyed. The State Division of Historical Resources has very limited ability to review private projects for impact on archaeological resources. Developers may be asked to fund recovery of archaeological data by hiring a professional archaeologist as a consultant to evaluate a property for archaeological potential and/or survey the area for unknown archaeological sites. This procedure is dictated by law in many states but is not required in New Hampshire.

BIBLIOGRAPHY

Bacon, Charles. "The Benjamin Shephard Homestead at 44 Stearns Road", <u>The Historical Society of Amherst, NH Newsletter</u>. Vol XXI, No. 3, December 1986.

Chandler, Charles Henry. The History of New Ipswich, New Hampshire 1735-1914. Fitchburg, MA: Sentinel Printing Co., 1914.

Files, New Hampshire Division of Historical Resources.

Greenville, NH Centennial 1872-1972. Greenville: 1972.

Hill, John B. <u>History of the Town of Mason, New Hampshire</u>. Boston: Lucius Elliot & Co., 1858.

Hurd, D.H. History of Hillsborough County, New Hampshire.

History of New Ipswich from the first grant to the present time. Boston: Gould and Lincoln, 1852.

Jones, Frederic William. <u>One Hundred and Fiftieth Anniversary of New Ipswich</u>, 1900. New Ipswich: Celebration Committee, 1900.

Kenyon, Victoria Bunker. "Cultural Resources Review and Impact Evaluation Merrimack Project C330215-03 & 05", February 1980.

Livermore, Abiel Abbot and Sewall Putnam. <u>History of the Town of Wilton</u>. Lowell, MA: Marden and Rowell Printers, 1988.

Milford Historical Society. The Granite Town.

Mason Bicentennial Book 1768-1968. Mason: Mason Historical Society, 1968.

Monroe, Lynne Emerson. "Historic Resources Inventory Forms, Milford-Nashua, F-010-1(24), 10136", January 1990.

Nashua Regional Planning Commission, "Milford Conservation Plan"

Nicholas, George Peter. "Evaluation Wilton Project C330117-02", September 1978.

Phelps, Abbie L., ed. Historic New Ipswich. Milford: The Cabinet Press, 1936.

Sargent, Howard "Preliminary Archaeological Survey and Impact Evaluation - Merrimack Project C330215", October 1977.

Secomb, Daniel F. <u>History of the Town of Amherst, 1883</u>. New Hampshire Publishing Company, Somersworth, 1972.

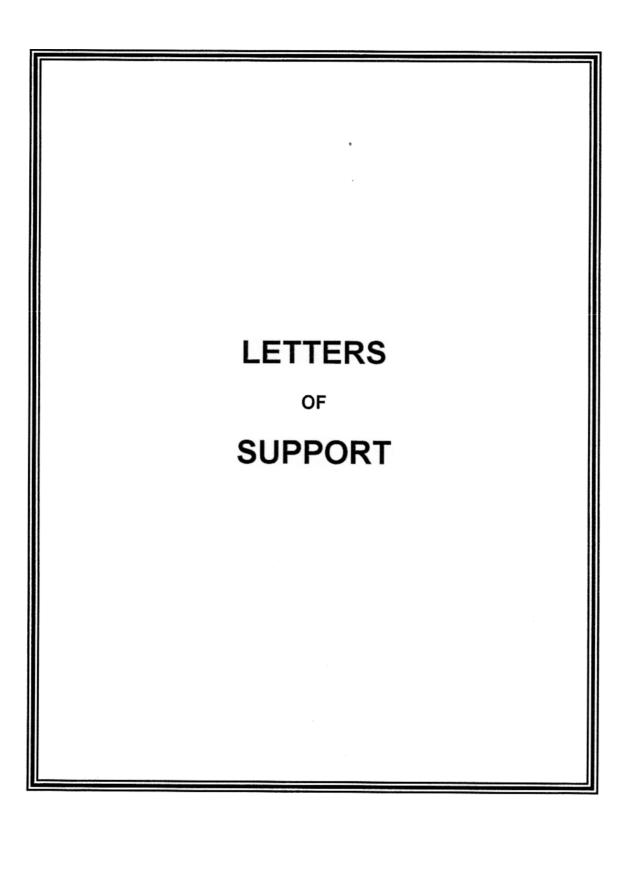
Tolles, Bryant. Guide to New Hampshire Architecture

Village Improvement Society of New Ipswich. "National Register Nomination: New Ipswich Center Village Historic District", 1991.

MAPS

Hurd, D.H. & Co. Town and County Atlas of the State of New Hampshire. Boston: D.H. Hurd & Co., 1892.

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SOUHEGAN WATERSHED ASSOCIATION

Chappell Professional Center 468 Route 13 South Milford, NH 03055

website: http://www.ultranet.com/~harts/swa/

e-mail: georgemay@msn.com

June 1, 1999

James MacCartney
Rivers Coordinator
NH Rivers Management & Protection Program
DES
Concord, NH 03301

Dear Jim:

The Souhegan Watershed Association (SWA) is pleased to present our documentation for nominating the Souhegan River into the NH Rivers Management & Protection Program.

Having this state recognition for the Souhegan will be tremendously helpful in our efforts to protect this important resource. The Souhegan is an important river for canoers and kayakers, fishermen, swimmers, wildlife, business, industry, and municipalities.

There is strong support in the area towns for this recognition and we expect this to be the catalyst for future improvements for everyone in the Souhegan watershed.

Sincerely yours

Dragidant

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Sincerely yours

President

Please sign the enclosed petition in support of the SWA's nomination of the Souhegan River for protection under the NH Rivers Management & Protection Program if you agree with it.

The SWA is collecting letters of support to enclose with its nomination to be submitted on June 1, 1999.

We hope and expect to have letters of support from town officials in each of the NH river towns.

Please sign and then print your name and address.

at RICHARD HART SI Christian Hill Rd Amherst, NH

Julie Smith 8 Sapling Circle Nathua, NH

Jo-Ann Turner 26 Birchwood dr. Milford NH 03055

Trans King JOANNE KING 29 BATES RD MERRIMACK NH 03054

PETITION TO THE GENERAL COURT

We would like to see the Souhegan River included in the NH Rivers Management & Protection Program.

We believe that the Souhegan is a river worth protecting and preserving and believe that including it in the RMPP will help further this goal. We fully support the Souhegan Watershed Association in these efforts to protect the river.

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185 So menemade fil Po. Bay 1675 Halles, n. H 03049

GARY W. GAGNC P.O. BOX 1415 MERRIMACK, NH \$3\$54

WENDY W SAVOICE
167 HEALD RD
WILLON, NA D3086

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Betoy Hahn

Betsy Hahn 106 Horace Greeley Rd., Amherst, HH 0308



June 1, 1999

Robert Varney, Commissioner NH DES 6 Hazen Drive P.O. Box 95 Concord, NH 03302-0095

NASHUA REGIONAL PLANNING COMMISSION P.O. BOX 847 115 MAIN STREET NASHUA, NEW HAMPSHIRE 03061 (803) 883-0366 FAX (803) 883-6872

Dear Commissioner Varney:

The Nashua Regional Planning Commission would like to express its support for the nomination of the Souhegan River into the NH Rivers Management and Protection Program. As you are well aware, the Souhegan River is one of the most significant surface water resources in the NRPC region. The general citizenry is becoming increasingly aware of the importance of the River to the quality of life in their community and the growing threat of development.

The communities continue to plan for the protection of the Souhegan River. Efforts to increase public access by way of a continuous trail network are continuing. While Milford and Wilton are capitalizing on opportunities to connect their downtowns to the River, Merrimack is placing the River center stage in its plans to create a Town center.

Much work has been and continues to be done on the Souhegan River. Now is the time to recognize its significance as a local, regional and state resource. I urge you and the Rivers Management Advisory Committee to support the nomination of the Souhegan River.

Sincerely,

NASHUA REGIONAL PLANNING COMMISSION

Andrew Singelakis, Executive Director

AS/srv

#500L-6



Milford Conservation Commission

1 Union Square Milford, NH 03055-4240 TEL: 603-672-6016 FAX 603-673-2273 May 13, 1999

Souhegan Watershed Association Chappell Professional Center 468 Route 13 South Milford, N. H. 03055

Attention: Mr. George May, President

Dear Mr. May

The Milford Conservation Commission strongly supports the nomination of the Souhegan River into the N. H. Rivers Management & Protection Program. We believe that having a Local Advisory Committee that can speak for the entire river will help with our efforts to protect the river.

U. S. Fish & Wildlife considers the Souhegan as the most productive of any of the rivers in the Adult Salmon Restoration Program. N. H. Fish & Game stocks the Souhegan with several species of trout because it is such a good trout stream. We'd like to help protect this resource for our town and area.

There is local interest in protecting the river in our town and, we believe, throughout the watershed. The prestige of being an RMPP River would be viewed as a positive move.

Very truly yours

Diane Fitzpatrick Chairperson

Member

Member

Member

Member

Member

SOUHEGAN WATERSHED ASSOCIATION

Chappell Professional Center 468 Route 13 South Milford, NH 03055

website: http://www.ultranet.com/~harts/swa/

e-mail: georgemay@msn.com

June 1, 1999

President

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Rivers Coordinator
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Concord, NH 03301

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